

Upp

1

and others.

HARVARD UNIVERSITY.



LIBRARY

OF THE

MUSEUM OF COMPARATIVE ZOÖLOGY

52,429

Exchange.

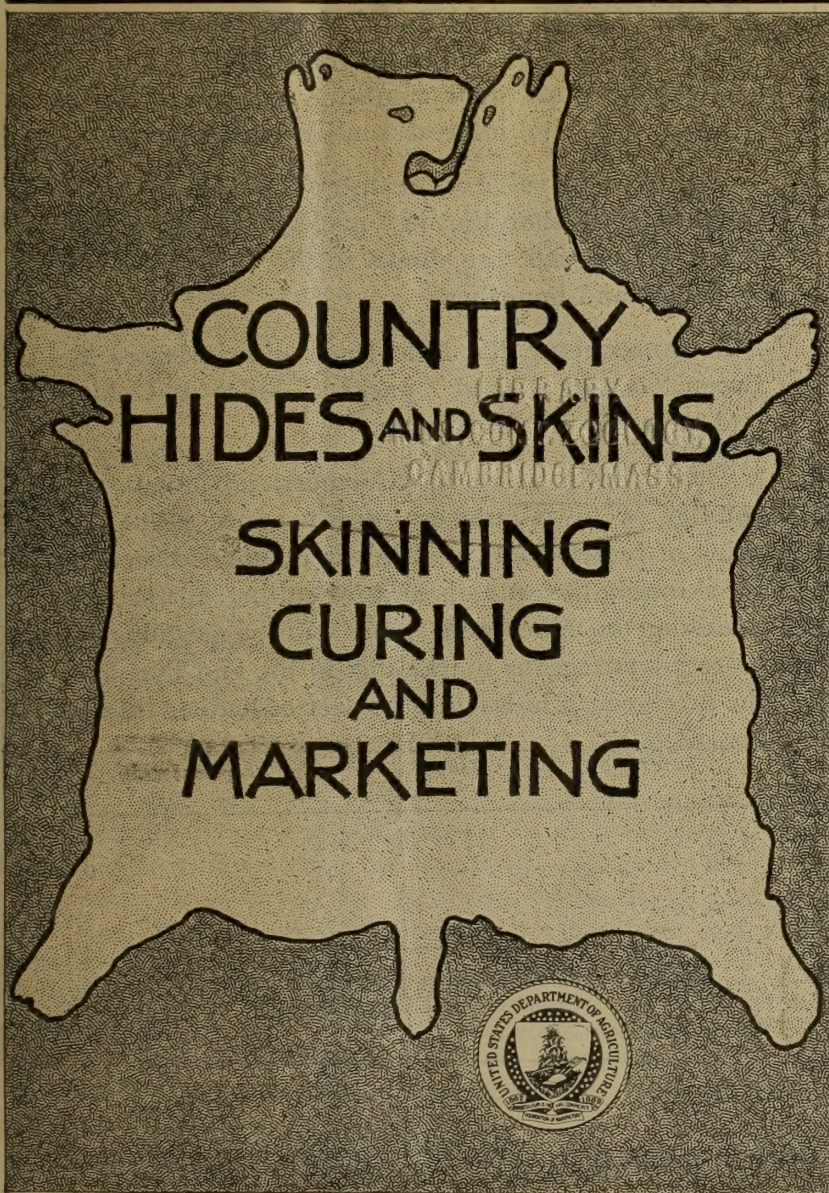
September 19, 1919.

SEP 19 1919

Ma-45

52,429

FARMERS' BULLETIN 1055
United States Department of Agriculture



C. Marshall Stewart

A

COUNTRY HIDES AND SKINS make up more than one-third of all the hides and skins produced in this country, and their condition on arrival at the tannery is of vital interest to all who use leather.

Too often the value of "country" hides for leather-making is less than that of "packer" hides, because less care and skill are shown in the "take-off" and in curing and handling.

In consequence the hide trade discriminates between "country" and "packer" hides and skins, and pays less for the former.

This bulletin shows how farmers, ranchmen, and country or town butchers may produce hides and skins of better quality. It gives detailed directions for skinning the animals and for salting, curing, and handling the hides and skins, with suggestions for more advantageous marketing, to the end that both the producer of hides and the user of leather may be benefited.

Joint Contribution from the Bureaus of Markets,
Chemistry, and Animal Industry

Washington, D. C.

August, 1919

COUNTRY HIDES AND SKINS.

C. V. WHALIN, *Assistant in Marketing Live Stock and Meats, Bureau of Markets*; R. W. FREY, *Assistant Chemist, Leather and Paper Laboratory, Bureau of Chemistry*; F. P. VEITCH, *Chemist in Charge, Leather and Paper Laboratory, Bureau of Chemistry*; R. W. HICKMAN, *Chief, Quarantine Division, Bureau of Animal Industry.*

CONTENTS.

	Page.		Page.
Hides, leather, and the producer.....	3	Market classes of hides and skins.....	40
Sources of hides and skins.....	3	Methods of marketing hides and skins.....	46
Condition of country and packer hides and skins compared.....	5	Careless handling and reprehensible practices penalized in markets.....	49
Waste and economic losses from imperfections.....	6	Selected and graded sales compared with flat sales.....	50
Spread between price of hides and price of leather.....	9	Essential points.....	51
Directions for skinning, salting, and curing.....	11	Appendix:	
Take-off or skinning.....	11	Market prices.....	53
Salting and curing.....	29	Exhibits showing market prices and classes and grades of hides and skins.....	55
Preparing hides and skins for market.....	36		

HIDES, LEATHER, AND THE PRODUCER.

HIDES and skins, the most important raw material of the tanning industry, are products of the farm and range, whether they are sold directly as such or are disposed of in the sale of the animals. In addition to being the producer of hides and skins, the farmer is one of the chief purchasers and users of the finished products of the leather industry. The farmer, therefore, is directly affected, both as a seller and as a buyer, by the quantity and quality of hides and skins and of the leather made from them.

SOURCES OF HIDES AND SKINS.

Packer hides and skins.—Packer hides and skins are taken off in establishments where the slaughtering is of a wholesale character, and where men usually are employed exclusively for the purpose of removing hides. In the plants of the large packers the labor is so divided that each worker has a particular task to perform, in which he becomes very proficient. Since they are taken off in large numbers, the hides are uniformly selected and cured, and generally are free from salt stains and excess salt or pickle. The result is a product of uniform selection, of good pattern and trim, and with few imperfections, making possible a maximum yield of leather of the best quality.

Country hides and skins.—Country hides and skins are taken off by farmers, ranchmen, and local butchers or by their helpers, who generally are inexperienced in skinning. This classification includes "fallen" hides, or those from animals that have died from

disease, accident, or natural causes, as well as those from animals that have been slaughtered for food. Country hides originate in small numbers, in scattered and remote sections of the country, and seldom are treated in a careful and efficient manner with respect to skinning, curing, and marketing. The result frequently is a poor product of irregular pattern and trim, with many imperfections; such hides and skins are usually handled several times before being available in uniform selection. Not only is the yield of leather from such hides and skins comparatively low and uncertain, but the leather is capable of only limited use.

Domestic and imported hides and skins.—Many of the hides and skins used in this country, including practically all the goat and kid skins, are imported. The exportation of such raw materials is comparatively insignificant. Table 1 shows in round numbers the supply obtained from domestic and foreign sources, as well as the total number and value of each kind used for tanning in the United States.

The importance of "country" hides and skins to the leather industry is indicated by the figures in Table 2, taken from the Census Report on Manufactures for 1909. No assembled information of the kind is available for a date later than 1909.

TABLE 1.—Hides and skins used in the United States (1914).

Kind.	Domestic. ¹	Imported. ²	Total. ³	Total value.
	<i>Number.</i>	<i>Number.</i>	<i>Number.</i>	
Cattle and horsehides ⁴	10, 354, 600	8, 477, 200	18, 831, 800	\$152, 862, 800
Calf and kipskins	7, 615, 800	8, 452, 000	16, 067, 800	33, 117, 700
Goat and kidskins	860, 700	36, 895, 200	37, 755, 900	23, 917, 000
Sheep and lambskins	13, 554, 900	26, 535, 300	40, 090, 200	19, 247, 700
Other skins of various kinds.....			1, 328, 500	4, 377, 500

¹ Obtained from difference between "Imported" and "Total."

² Obtained from reports on imports made by U. S. Bureau of Foreign and Domestic Commerce.

³ Obtained from Census of Manufactures, 1914, of U. S. Bureau of the Census.

⁴ Colt and ass skins included.

TABLE 2.—Animals slaughtered for food in the United States in 1909.

Kind.	Total.	In slaughtering and meat-packing establishments ("packer").	In retail slaughtering houses and on farms ("country").
	<i>Number.</i>	<i>Number.</i>	<i>Number.</i>
Beeves.....	13, 600, 000	8, 100, 000	5, 500, 000
Calves.....	6, 500, 000	2, 500, 000	4, 000, 000
Goats and kids.....	286, 000	33, 200	252, 800
Sheep and lambs.....	14, 700, 000	12, 300, 000	2, 400, 000
Miscellaneous.....	1, 600		1, 600

NOTE.—Only approximate numbers are given in the tables, and those for hogs have been omitted, as comparatively few are skinned.

It may be pointed out that the statistics in Table 2 are for animals killed for food. Hides and skins, especially those from country-killed calves, are not always removed by the slaughterers and a considerable number are obtained from animals that die from accident, disease, or natural causes.

The figures on slaughtering are given because the available data on hides and skins actually taken off do not distinguish between those removed by the large wholesale and the small retail slaughterers. From the latter, as well as from farmers, many of the country hides and skins are obtained.

CONDITION OF COUNTRY AND PACKER HIDES AND SKINS COMPARED.

Some of the principal factors which lower the value and materially affect the market prices of hides and skins are given below. A tabular arrangement is used for convenience in comparing packer and country hides and skins with reference to many of the physical defects found in domestic hides. The objectionable conditions mentioned under the heading of "Country hides and skins" are not applicable to all of that class, but they are so prevalent that they have served to contrast the packer and country products. Hide producers should find it to their advantage to study these comparisons and strive to eliminate the objectionable features.

Items.	Country hides and skins.	Packer hides and skins.
Skinning (flaying).....	By unskilled men.....	By experts.
Cuts and scores.....	Numerous.....	Few.
Patterns and trim.....	Not uniform.....	Uniform.
Sinews.....	Left on hide.....	Removed.
Udders.....	Parts left on hide.....	Removed.
Tail bones.....	Left on hide.....	Removed.
Dewclaws.....	Left on hide.....	Removed.
Hairslips (putrid condition).....	Many.....	Few.
Destroyed grain (rubbed or dragged hides).....	Many.....	Few.
Salt stains (due to unclean salt, etc.).....	Many.....	Few.
Salt.....	Often finely ground and dirty.....	Clean, coarsely ground or rock salt.
Cure.....	Many not thoroughly cured.....	Generally well cured.
Method of cure.....	Often pickle cured.....	Always salt cured.
Saltings.....	Usually two or more.....	Usually but once.
False weighting.....	By vatting, by applying foreign substances or water.	Rare.
Handling.....	Careless.....	Careful.
Color of flesh side.....	Dirty.....	Usually bright.
Leather yield.....	Low and uncertain.....	High and reliable.
Dried hides.....	Many sunburned and decayed.....	None.
Frozen.....	Frequent in winter.....	None.
Fallen.....	Many.....	Few.
Glue hides.....	Many.....	Few.
Grubs ¹	With more than 1 grub, graded as No. 2.	With more than 4 grubs, graded as No. 2.
Quantities.....	Small lots, often single hides.....	In carload lots of selection desired.
Marketing.....	Complex, through many dealers.....	Simple—producer to tanner.
Producer's method of sale.....	Frequently sold flat, i. e., not selected or graded.	Always selected and graded.
Standardization of classes and grades.....	Not standardized.....	Long-established standards.

¹ The War Industries Board in 1918 ruled that grub penalties for packer and country hides should be the same.

WASTE AND ECONOMIC LOSSES FROM IMPERFECTIONS.

An idea of the damage to the resulting leather from hides and skins having some of the defects just mentioned and of the loss because of the limited use to which such leather can be put may be gained from the illustrations, figures 1 to 8. Only hides relatively



FIG. 1.—Leather unfit for many purposes as the result of damage from numerous scores (wavy lines) and cuts (black lines and holes). Result: Lower prices for hides, higher prices for good leather.

free from imperfections bring the best prices, because they yield the higher-priced products, such as belting, harness, carriage, and furniture leather.

Injuries caused by grubs, ticks, and brands during the life of the animal also affect adversely the market prices of both packer and country hides and skins. Means for the eradication of the tick are now well known and are being used with much success; processes for the elimination of the grub are being studied by many investigators.

Branding alone is the cause of an appalling loss. The brands are often applied to both sides of the animal, anywhere from shoulder to

tail, and are burned so deeply that the scars are visible on the under or flesh side. No real solution of this problem has been offered. It is questionable whether branding is necessary to the extent now practiced. Many suggest that if branding must be done it be lightly

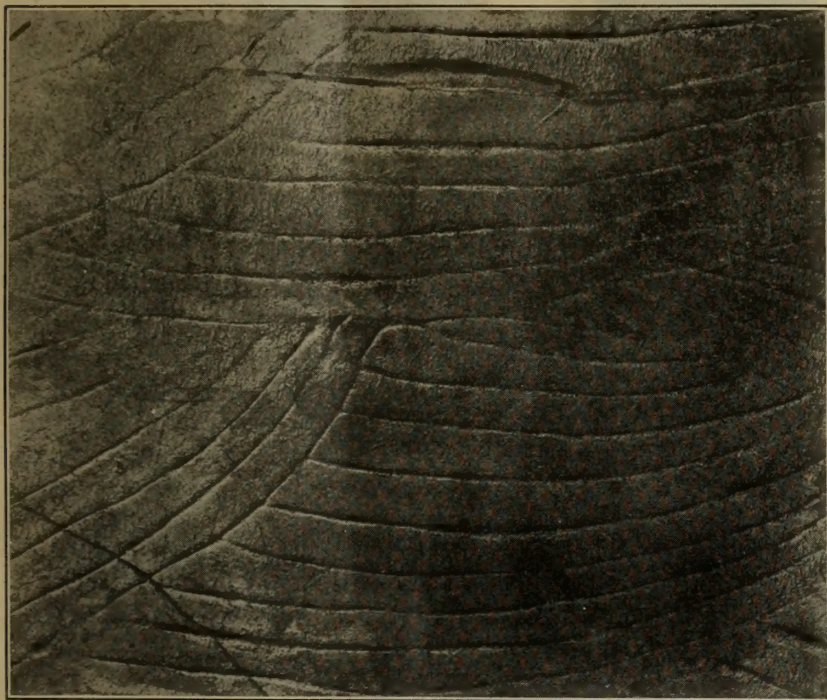


FIG. 2.—A "close-up" photograph showing plainly the effect of scores. This leather is almost worthless, but costs as much to tan and finish as leather from good hides.



FIG. 3.—Leather from an improperly salted hide. One way to increase the cost of shoes. The lighter areas show the resulting "hairslip" and "rot."

applied and be confined, if practicable, to areas of the hide less valuable for leather purposes, such as the neck or shoulders. The use of the wire brand instead of the heavy iron ones also has been suggested.



FIG. 4.—Failure to cure the hide caused this condition. Such a hide is hardly worth tanning. It is fit only for very inferior soles and heel lifts when there should have been from 6 to 8 pairs of good outsoles.

Ticky hides make leather of low value, while grub holes and brand sears limit the area of sound leather obtained and the uses to which it can be put. Injuries from ticks and grubs influence the market prices of the live cattle as well as of the hides. Butt-branded hides sell for less per pound than natives, and side-branded for less than butt-branded hides of the same selections. On the live-stock market branded cattle bring considerably less per head than native cattle of

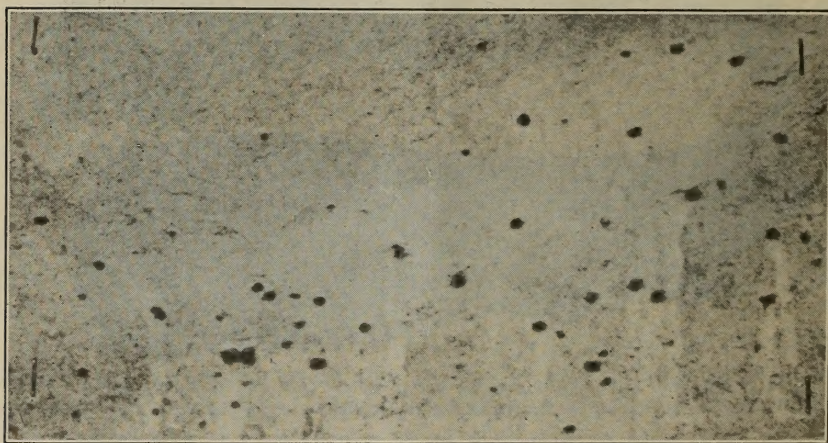
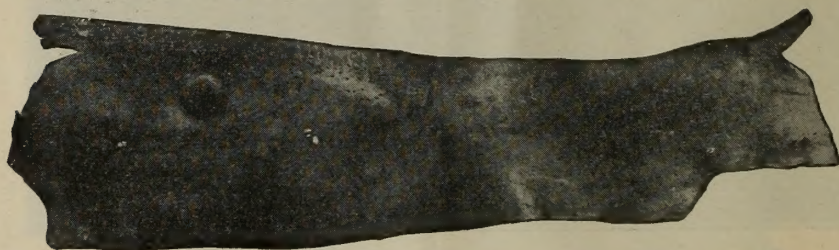


FIG. 5.—Leather from a grubby hide. The grub holes will be noticed as black specks near the top and middle of the side of leather. The grubby area is shown enlarged in the lower figure. Grubby leather is unfit for good outsoles, shoe uppers, harness, or belting.

otherwise equivalent general condition. Some injury is caused to hides by the horns of cattle and by the use of barbed wire for fences; the dehorning of cattle and the discontinuance of the use of barbed wire for fencing cattle inclosures will prevent the loss from these causes.

The effect on the leather of grubby, ticky, and branded hides is shown to some extent in figures 5 to 8.



FIG. 6.—Leather from a "ticky" hide. The pits caused by the tick bites resemble those from smallpox, and give the leather a rough surface, making it unfit for many purposes for which a fine finish is necessary.

SPREAD BETWEEN PRICE OF HIDES AND PRICE OF LEATHER.

The United States Department of Agriculture receives many protests from farmers and butchers against the wide difference that exists between the prices paid them for hides and the prices charged them for leather. This condition is the result of many factors, most of which are not peculiar to hides and leather, but apply equally

to many other commodities. After the producer sells them, the hides must pass through numerous necessary processes of further marketing, transportation, and manufacture before being converted into leather, which in turn undergoes many additional processes in being made into finished articles and in being sold. It must be remembered

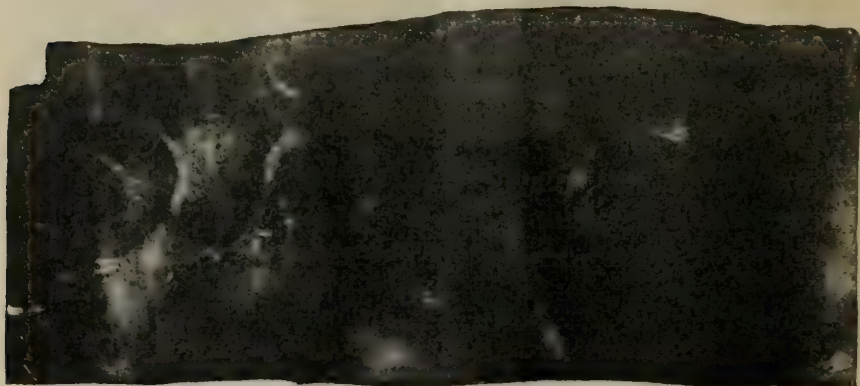


FIG. 7.—Grain side of leather from a branded hide.

also that a loss, based on the weight of the salt-cured hide, of from 10 to 30 per cent, occurs in tanning. The wide difference between the prices of the raw and the finished products, as well as the low prices paid for country hides and skins as compared with the



FIG. 8.—Showing the flesh side of the same leather and the penetrating effect of branding. Leather from the branded areas is hard and brittle and of limited usefulness. Value of the hide reduced from one-fourth to one-half.

prices paid for those marketed by the packers, is also due partly to several factors less difficult to control than those just mentioned. Among them is the general inferiority of country hides and skins, due to indifferent and improper methods of handling and to the lack of a well defined and closely followed system of classifying

and marketing them. Much improvement is possible along these lines, and this rests almost entirely with the farmer and the country butchers.

There are three important operations in the handling of hides and skins: Take-off or skinning; salting and curing; and marketing. Every effort should be made to perform these operations properly and efficiently, bearing constantly in mind that the hide or skin, as well as the meat, is an article of value. To the small butcher, and even to the farmer with only an occasional hide or skin to market, the avoidable loss is appreciable, and collectively it amounts to millions of dollars annually. The correct methods of skinning, salting, curing, and marketing, when carefully followed, will more than offset the little extra time and effort required, by the improvement in quality and the better returns.

DIRECTIONS FOR SKINNING, SALTING, AND CURING.

Country hides and skins can be so handled in the take-off and cure and so marketed that they will yield leather of high quality, and as a consequence bring prices but little lower than those paid for the packer products. They should not be penalized if their value in finished leather is equal to that of packer hides and skins of similar class and grade.

A recent survey made by the United States Department of Agriculture shows, in many sections of the country, a marked improvement in the condition of country hides and skins. In many cases this improvement is recent and has been made in response to better prices and to educational campaigns inaugurated by progressive hide concerns for the purpose of promoting greater hide conservation.

The previous discussion and the following directions and suggestions are offered with the object of enabling producers of country hides and skins to improve the quality of their products through better skinning, salting, and curing and also to encourage more careful and profitable marketing.

The small producer, such as the farmer or stockman, of course, is handicapped by having a limited number of hides and skins at a time, and consequently can not afford ideal conditions that include the installation of special facilities. Nevertheless, with a knowledge of the correct principles and precautions and a judicious use of the means ordinarily available, he can produce an article of excellent quality.

TAKE-OFF OR SKINNING.

For killing and skinning on a small scale, only a few simple tools are required. Among them are an ax, preferably with a small cylindrical head, for felling; an 8-inch straight-blade knife for sticking;

a 6 or 7 inch curved skinning knife; a steel for sharpening the knives; a stout stick about 3 feet long sharpened or spiked at each end; and several heavy spreaders, or gambrels, of various sizes for suspending the carcasses by the hind legs. The sharpened or spiked stick is used to support the animal while on its back on the floor or ground, and for this purpose a sawed-off broomstick will serve when spiked on each end. In addition to the tools, some means, such as a block and tackle, must be provided for swinging heavy animals.

The most suitable place for killing must be selected, keeping in mind the necessity for cleanliness. Care should be taken to prevent contamination of the hide or skin by blood, water, or filth. A building with a concrete floor which can be easily flushed with water is preferred although it is not necessary. Killing and skinning are often done outdoors on a clean, hard spot under a tree, a limb of which can be used for suspending the carcass.

Always clean the animal before killing, removing the dirt and manure by currying and brushing. Avoid causing damage to the hide or skin while handling the animal. In knocking it down, for instance, see that it does not fall on stones or rocks that will bruise the hide, and in the subsequent handling do not drag the carcass around so as to rub the hair off the skin.

Keep the skinning knife sharp, but use it carefully and no more than is necessary. Avoid cutting the hide or skin, not, however, at the expense of the meat. Leave the flesh on the animal; besides a loss of food, its presence on the hide or skin is very objectionable, decidedly lowering its quality. Skinning is done best and easiest before the animal heat has escaped.

The operations of skinning are difficult to describe so that they may be followed easily. In fact, expertness in flaying, especially of hides, can be acquired only by practice. It requires somewhat of a knack, and much patience and care must be exercised until the knack is obtained. No written directions can be as clear and effective as actual observations and trials. It is suggested that the farmer or small killer take advantage of any opportunity he may have to visit the larger killing establishments where proper methods are in vogue.

SKINNING CATTLE.

The animal first should be fastened securely with a rope around its neck and with its head pulled down near the floor or ground. Make sure that escape is impossible. The place where the animal is to be felled should be selected with the view of allowing the blood from the sticking to flow away. Stun completely with a good blow of the ax on the forehead a little to either side of the center. The exact location of this point is shown by the blood spot on the skull in

figure 10. If preferred the animal may be shot in this spot with a rifle or pistol of at least 38 caliber.

Begin the bleeding immediately, which may be done while the animal is lying on the floor or after it has been hoisted with head down. The latter position is preferred, as it promotes complete drainage of the blood. Start by making a long straight rip in the neck at the sticking point and in line with the center of the underlip and the center of the brisket.

Some practice will be required to bleed properly. With the back of the knife against the breastbone and with the tip of the blade pointing toward the spinal column at the top of the shoulders, cut in



FIG. 9.—Sticking and bleeding. Observe carefully the position of the operator. Avoid making the jagged cuts shown at the operator's left hand.

to just under the windpipe, to a depth of approximately 5 or 6 inches, severing the vein and artery which cross at this point. Then run the knife in on top of the windpipe and cut the blood vessels on that side. Do not stick too deeply and puncture the pleura as then the blood will flow into the chest cavity and cause a bloody carcass. Figure 9 shows the bleeding operation while the animal is still down. Notice the position of the operator and how the neck of the animal is stretched by pressing back on its jaw and front legs. This illustration also shows the bad practice of making a jagged rip, instead of a clean, straight one. Always stick the throat lengthwise, never crosswise from ear to ear, as the latter method reduces the value of the hide by wasting much of the head and neck parts.

After bleeding freely, begin skinning the head, cheeks, and face, as shown in figure 10. This operation is easier to perform while the animal is suspended. Commence by cutting across from the base of the right horn to that of the left one and then down to the left eye and through the left nostril. In this way the head and face will be on one side of the hide, instead of bag fashion or all in one piece, and will allow the hide to lie flat when spread for curing. In figure 10

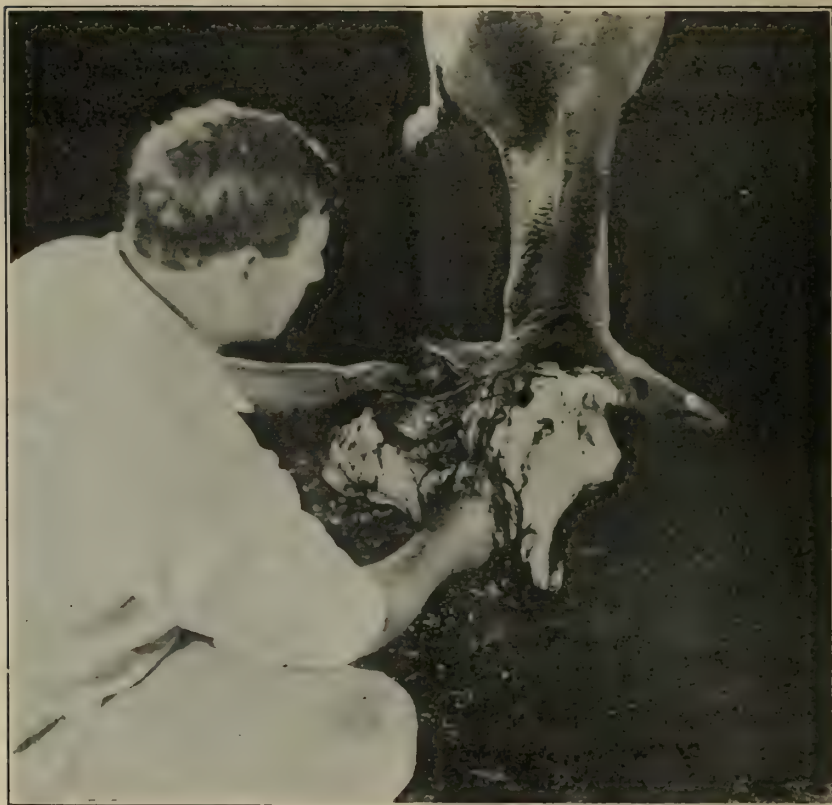


FIG. 10.—Skinning the head and cheek. Note the path of the knife along the edge of the unremoved hide, starting at the base of the right horn and extending across to that of the left horn and down through the left nostril.

the path of the knife in making the cut down one side of the head and face can be followed very easily. Skin out carefully the head, cheeks, and face, and cut around the base of the horns, leaving the ears on the hide. When skinning over the cheeks leave the meat on the head, as one of the faults of country hides is the presence of more or less cheek meat. Remove the head by severing from the neck at the top of the spinal column or atlas joint. The horns are left on the skull, not on the hide.

Now lower the animal, if it has been suspended, and support it on its back, using the spiked stick as a prop by placing one end in the



FIG. 11.—Skinning the forelegs. Observe the position of the skinner and the cut down the leg. The leg on the near side has been removed at the knee joint.



FIG. 12.—Skinning the hind legs. The position of the knife and pull on the hide should be observed.

brisket and the other in the floor. Skin out the legs and remove the feet, as shown in figures 11 and 12. Cut off the dewclaws and rip up

the back of each leg through the center of the knee and several inches beyond. Start the leg-ripping cut from the cleft at the back of the hoof or on the right side of the dewclaw holes, and gradually come in to the center at the knee. The feet are removed by severing at the knee joints at upper end of shin bone. In figures 11 and 12 it will be noticed that one front and one hind foot have already been removed. Either just before skinning the legs or immediately after, rip the hide down the belly from the sticking cut to the rectum or tail. Make this a neat, straight rip, free from jagged edges.

"Siding down," or skinning the sides, is next. Stand opposite the brace or prop and begin skinning the near side by placing the knife



FIG. 13.—The first step in "siding down." Pull the hide up tight while working the knife, as shown; avoid cutting the edge.

under the hide about midway of the belly. Skin forward to the brisket and back to the inside of the hind leg close to the tail. Have the knife sharp and hold it flat, with the back close to the hide. With the free hand lift away the hide, stretching it tightly by pulling outward and upward against the knife. Do not let any wrinkles form in the hide as it is being removed, and use a long, steady, downward stroke over the sides instead of a short, choppy one. Skin off the hide nearly to the backbone, leaving it attached, however, at the thighs and shoulders. Be careful to let the covering of muscles over the abdomen remain on the carcass; these muscles show up particularly well in figure 17. Change the prop to the skinned side and remove the hide from the other side. "Siding down" is illustrated in figures 13, 14, 15, 16, and 17.

The next operation, while simple, is extremely important, as it partly governs the pattern of the hide, or, in other words, the pro-



FIG. 14.—The second step in skinning the side. Pull hard on the hide, with the knife nearly flat against it.



FIG. 15.—Skinning back to the hind leg; hide held taut.

portion of the hide in the shoulder, belly, and butt sections. There is little excuse for the poor, irregular pattern often characteristic of

country hides and skins. While proper skinning, without scores or cuts, requires practice, a proper pattern requires only a sharp knife



FIG. 16.—Skinning near the rump. Observe particularly the position of the knife blade.

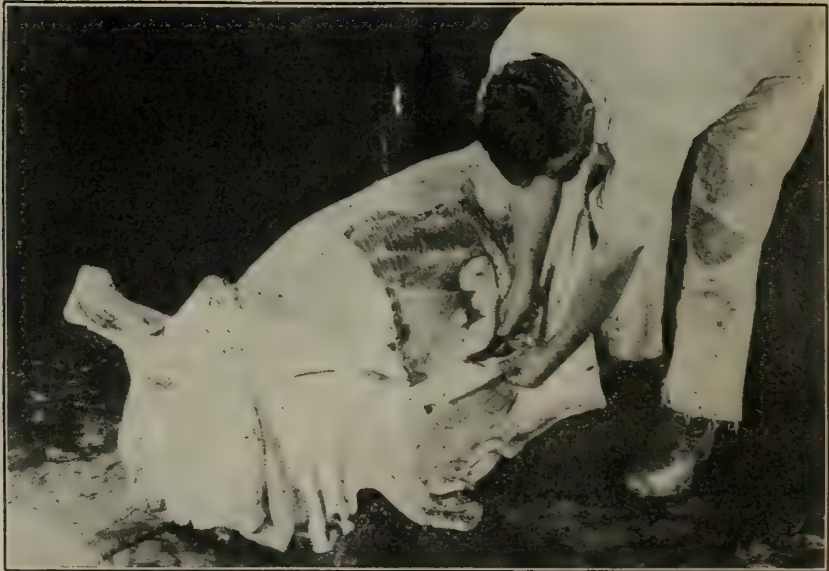


FIG. 17.—Well down on the side. The red muscles over the belly have been partly removed with the hide. This is a common error in skinning.

and straight ripping-open cuts along the correct lines. Figures 18 and 19 show these cuts at the fore and hind legs, respectively. All

the ripping-open cuts are clearly shown in figures 20 and 21 by dotted lines. The outlines show the resulting correct pattern or appearance



FIG. 18.



FIG. 19.—This illustration and fig. 18 show the correct cuts from the belly line to the fore and hind legs, respectively. In making a good pattern these cuts are very important. In this connection study figs. 20 and 21.

of the hide when spread out flat. The contrasting points in pattern and trim are shown in figures 22 and 23. These diagrams should be carefully compared, observing the irregular edges and the shape of

the hide, the split shanks and tail, and the dewclaws shown in figure 23 but absent in figure 22. Note also that those portions of the hide



FIG. 20.



FIG. 21.—This figure, with fig. 20, shows the proper ripping-open cuts for a correct pattern. The dotted lines show the path of the knife, and the solid lines show the appearance of the hide when spread out.

marked "a" in figure 23 should appear at "b" in order to produce a perfect pattern.

For the cut at the front legs start at the center ripping line well forward at the brisket somewhat in advance of the front legs, and

draw the knife slantingly back to the union of the fore leg and body and continue the cut down the leg to meet that made when skinning the latter. The same is done for the hind legs, starting at the center about 6 inches from the tail and cutting upward to the back of the legs so as to connect with the cut previously made. While the animal is still down, skin over the buttocks and rump as shown in figures 24 and 25.

Insert the spreader or gambrel in the hind legs and raise the animal to the half hoist so that its shoulders are resting on the floor.

The next operation is that of removing the tail bone, which is done by ripping the hide down the underside of the tail to the tip or brush. Cut the tail bone off from the body and pull it off the hide, being sure to remove the entire bone. For removing the tail bone a device known as a tail puller is often used. It consists essentially of an iron hook with jaws which tighten their grip when pulled on. When using this apparatus, the hook is slipped over the

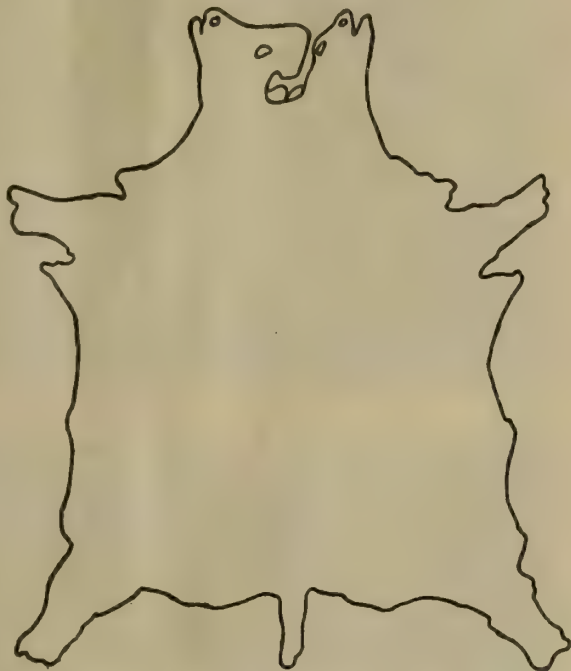


FIG. 22.—A hide of good pattern and trim.

gambrel, the hide is split down the underside of the tail, and the tip end of the tail bone is worked out and inserted in the jaws. The hide is then pulled off the bone by grasping the switch and pulling downward, after which the hide is skinned carefully away from the base of the tail, and the tail bone severed close to the animal's body.

Take the hide off the hind legs, rump, and round by starting it with the knife and then by beating or pounding with the fist, butt of the knife handle, or the back of a cleaver, at the same time pulling on the hide as illustrated in figure 26. This is the most valuable section of the hide, and it adheres so tightly to the animal that it is almost impossible to remove it with a knife without making detrimental cuts and scores. Hammering off is very satisfactory and is a sure way to prevent cuts. When clear of the rump and round, the

hide is generally snapped off to the flank, as pictured in figure 27. In skinning the back as shown in figure 28, very slight use of the knife is necessary, as the weight of the hide will almost pull it off. Care should be taken to see that the muscle tissue is not pulled off with the hide. The operator in figure 28 is shown holding the knife almost vertically, but it is quite common for skinners at this stage to work the blade horizontally while severing the hide from the adhering



FIG. 23.—A hide of poor pattern and trim. Observe the irregular outlines, the poorly shaped head, and the split shanks and tail at "S." The dotted lines show the amount of hide that must be trimmed off before tanning. The parts marked "A" should be at "B" for a good pattern. Carefully compare figs. 22 and 23.

muscles. When skinned down to the shoulders, the animal is raised clear of the floor, and the hide is dropped off the neck, as shown in figure 29. Spread the hide out and split each ear with two cuts lengthwise, so that they will lie flat when curing.

While country hides generally bear scores and surplus flesh, these defects are particularly prevalent in the places indicated in figure 30. For proper skinning, these sections require unusual care.

SKINNING HORSES.

Horsehides are removed in practically the same manner as hides of cattle. They are graded almost entirely on the condition of the butt or rear portion. Particular pains should be taken with the butt, which should be free from scores, cuts, and dragged spots. Tails and manes should be removed from the hides and sold separately.

SKINNING CALVES.

In the large packing establishments calves are killed by stunning. The smaller slaughterers and country butchers sometimes kill by sticking the throat without previous stunning by an axe, which may possibly scatter the brains. Most country butchers, particularly in

the East, then cut the head off with the hide on it, although the head and face can be skinned as in the case of cattle.

In removing the skin the knife need be used but very little, most of the skinning over the body being done by the fists and arms, while



FIG. 24.



FIG. 25.—This illustration and fig. 24 show the operation of skinning over the buttocks and rump. Observe closely the manner of holding the knife and hide.

kneading the skin to prevent tearing. The knife is necessary in taking the skin off around the head, neck, legs, and flanks, near the base of the tail, and over the rump.



FIG. 26.—“Beating the fell” over the rump and round. Pull hard on the hide and strike it at the carcass with the butt end of the knife handle.



FIG. 27.—“Snapping off” over the flank. Grasp the hide as shown and while pulling down snap it off like shaking a rug.



FIG. 28.—Skinning the back. Here the hide will almost drop off from its own weight.



FIG. 29.—Skinning the neck.

114727°—19—Bull. 1055—4

In general the ripping open and other primary cuts in skinning calves are the same as those described under skinning cattle. Figure 31 shows a somewhat different step quite common in some sections of the country but seldom used by butchers, as it requires more time and care. If this method is followed, hang the calf up by its hind legs and skin the rump around the tail, as shown in figure 31, at the same time disjuncting the tail bone. The tail bone should be entirely removed before the skin is sent to market. Figure 32

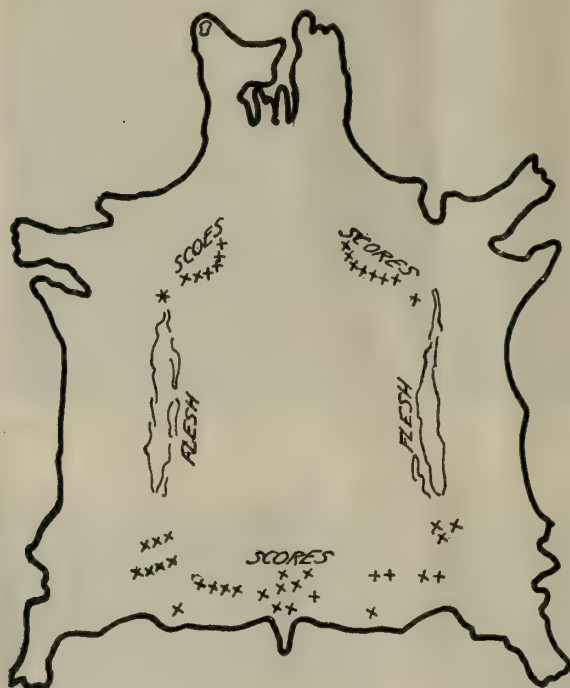


FIG. 30.—With hides poorly taken off, defects from scores and flesh are particularly prevalent in the areas indicated in the diagram. Scores are very numerous around the tail and in the butt, which is the most valuable section of the hide. Careful knife work will prevent these defects.

illustrates the next operation of skinning out the hind legs, after which the skin is ripped open straight from neck to tail, and the front legs skinned as in the case of cattle. After this suspend the animal with a small spreader or gambrel and remove the skin by hammering and pulling, as pictured in figures 33 and 34. Do not use the blade of the knife any more than is absolutely necessary as, for example, when the meat shows a tendency to pull away from the carcass. In this way any chance of making scores or cuts

may be obviated and a skin of decidedly more value will be obtained.

With calves that are to be placed in cold storage, the skin generally is not removed any further than figure 34 shows. The hanging parts of the skin are wrapped over the skinned parts, and left this way, to keep the meat moist, until the carcass is to be cut up for sale. The butcher has then only to pull or "fist" the skin off the back and remove the tail bone if present. Very often when the dressed calf is to be shipped some distance the skin is not even partially removed. This is advisable for the protection of the meat, but makes the skinning more difficult because of the escape of the animal heat.

Figure 35 is a diagram of calfskin of good trim, while figure 36 shows one of very poor trim. The dotted lines indicate the amount of skin that must be trimmed off before tanning, and it will be noticed that this includes the removal of the entire head, of practically all the shanks, and of many pieces along the belly edge. Needless to add, the value of a calfskin depends largely upon its pattern and trim.

SKINNING DEACON AND STILLBORN CALVES.

Deacon skins are obtained from very small calves, the cured skin weighing under 7 pounds. Stillborn calves furnish what are known as slunk skins. From these young animals the skin can be pulled off almost entirely. After skinning the head and legs, tie the head and the fore legs together with a rope or chain and fasten to something solid. A strong cord is then tied with a slip noose around the neck of the skin, and the latter is pulled off either by man power or horsepower or windlass. The carcass should not be allowed to become cold, as then the skin adheres so closely that the use of force in drawing it off in the manner described may cause it to crack.



FIG. 31.—The first step taken by some butchers in skinning calves.

SKINNING SHEEP.

When skinning sheep and lambs extreme care should be taken to prevent wool from coming in contact with the flesh, for if this

happens contamination of the meat is almost sure to result. A similar precaution is important when removing the skin from the carcass of a goat.

Sheep are not stunned before bleeding, although this method of killing may be used with the old ones. After sticking the sheep through the throat, skin out the legs as illustrated in figure 37.



FIG. 32.—Skinning the hind leg of a calf.

Split the skin over the back of the front legs from the dewclaws to somewhat beyond the knees, and also from the brisket to the chin, skinning back a little on the neck. For the hind legs split the skin down the back to the center line of the belly. Remove the skin from the legs and buttocks, cut off the feet at the toe joints, and suspend the animal by its hind legs. Split the skin down the center line of the belly from the tail to neck and lift it off over the flank, as pictured in figure 38.

From this stage the pelt can be removed entirely by "fisting-off" and pulling. In "fisting-off," the edge of the skin is grasped firmly in one hand and pulled while the fist of the other hand is shoved between the skin and body. Figure 39 shows this operation plainly. The strokes of the fist should be downward over the forequarters and upward and backward over the hind quarters. After being "fisted-off" the sides and back the pelt is stripped down over the neck, as figure 40 shows, and cut off close in back of the ears.

SUMMARY OF COMMON DEFECTS IN COUNTRY TAKE-OFF AND REMEDIES THEREFOR.

In the following tabulation the most serious and most prevalent defects from the skinning of country hides and skins are given in the left column. Suggestions for overcoming these faults are listed in the right column opposite.

Defects.	Remedies.
1. Head skinned out bag fashion or all in one piece.	Cut across head at base of horns and down left side of face into or just beside left eye, then down through left nostril. (See figs. 10, 20, and 21.)
2. Cheek meat not trimmed out, usually left on hide.	Easily avoided by careful knife work.
3. Hide from legs irregular in shape.	Cut hide at back of hoof, then rip up back of leg to knee joint, skinning out both sides of leg. (See figs. 11, 12, 20, and 21.)
4. Poor pattern: Hide from belly skinned so as to come in the shoulder section.	Start from the ripping open cut down the belly well forward at the brisket and cut slantingly back to the back of knuckle joint of the fore leg. (See figs. 18, 20, and 21.)
5. Poor pattern: Hide from the butt skinned so as to come in the belly section at the bag.	Start from the ripping open cut down the the belly at a point about midway between the tail and bag, but nearer to the latter by a few inches, and cut upward to the back of the hind leg at the knee joint. (See figs. 19, 20, and 21.)
6. Poor knife work around the butt and rump, leaving bad scores.	Sharp knife carefully and sparingly used. Beat and pull off the hide as much as possible. Avoid at all times cutting or digging into the surface of the hide. (See figs. 26 and 27.)
7. Bad scores on belly and side of hide, due to short, choppy strokes.	Sharp knife used in long sweeping strokes. Hold the knife flat against the hide where it joins the flesh. With other hand draw hide taut, thus removing wrinkles and permitting clean, sure knife work. (See figs. 2, 3, 16, 17, 19, and 32.)
8. Bad scores on neck and shoulders.	Sharp knife. Pull hide against knife edge instead of making short blind cuts. (See figs. 1, 2, 14, 15, 17, and 30.)
9. Failure to remove tail bone.	Rip down underside of tail to tip and remove entire bone.
10. Dewclaws left on hide	Cut off dewclaws before starting to skin the legs.
11. Ears not split.	Spread hide on floor and split ears lengthwise twice. This will permit the hides to lie flat in the pack while being cured.

SALTING AND CURING.

The next important operation after the hides and skins have been correctly removed is that of curing or preserving them in a sound condition, which is accomplished by thorough salting.

In cold weather hides and skins may be safely kept for some time without salting, though care should be taken to prevent them from freezing. In spring, summer, and fall, however, they must be salted promptly if they are to be made into good leather and pay for the work of saving them.

SALTING AND CURING ON THE FARM.

Cattle and horse hides.—Before salting see that the hide is clean. Other factors being equal, clean hides bring the most money because there is less waste on them and they make better leather. After the



FIG. 33.—“Pounding off” a calfskin, using the butt end of the knife handle.

hide has been removed carefully from the animal, clean off as much as possible all remaining dirt and blood; remove any pieces of flesh by scraping with the back of a butcher knife and by careful cutting;

trim off any ragged edges, and split the ears twice. Then allow the hide to lose its animal heat, in a cool, dark, dry place. Six hours is usually long enough for this, although overnight is permissible in cool weather.

For curing select a cool, clean place, preferably a cellar, or a barn floor free from drafts and out of the direct sunlight. A floor with a slight slope and a drain is the best. Sprinkle on the selected space a thin layer of clean crystal salt (about the size of a pea) or ordinary salt of the kind used for salting meat. When the hide has cooled sufficiently spread it, hair side down, over the salted floor, being sure to straighten out all folds and laps. Sprinkle fresh, clean salt all over the flesh side of the hide, using about 1 pound of salt for every pound of hide. See that all parts of the flesh side receive a sprinkling of the salt. Be sure to use plenty of salt and rub it in well along the cut edges, head, neck, legs, wrinkles, and the heavy portions.

If several hides are to be cured, pile them one on top of the other, always hair side down, with their heads at one end, and salt each one on the flesh side as directed. In piling the hides, do not drag them across the stack of salted ones, as this disturbs the salt on those underneath, causing unsalted spots and spoiled hides. The liquor from the pile of hides must be drained away to prevent damage to the bottom ones.

In curing, the hides if properly salted will become firm and stiff, when they are known as "salt firm" or "salt hard." This requires some time, generally 6 to 14 days, after which the hides are ready for bundling and shipping. They should rarely be bundled immediately after salting.



FIG. 34.—"Pulling off" a calfskin. Stretch the skin with the left hand and press down on it with the right forearm.

Calfskins.—After the skins have become cool, salt them in the same manner as cattle or horsehides. It is safer, however, to use a

finer salt than is used for hides and to rub it in with the hands around the neck, head, tail root, legs, and shanks.

Sheepskins.—Sheepskins require longer to cool than the other skins. Do not salt them until thoroughly cooled, which will take from 8 to 10 hours in the summer. Use about one-half a pound of clean, fine salt to 1 pound of skin, sprinkle it on by hand, and make sure that every spot on the flesh side gets some salt.

Send sheepskins and lambskins to market promptly. Hold them only 4 or 5 days after salting, as they are liable to heat rapidly, causing decomposition and decrease in value if not total loss.

SALTING AND CURING BY BUTCHERS.

The butcher, as distinguished from the farmer, has a much larger number of hides and skins, and he can handle them advantageously in a somewhat different manner. Because of the extent of his business the butcher can afford and should have the proper place and facilities for slaughtering and for curing hides and skins.



FIG. 35.—A calf skin of good pattern and trim. The dotted lines indicate the amount cut off before tanning.



FIG. 36.—A calf skin of poor pattern and trim. The dotted lines show the excessive amount of trimming necessary because of the poor pattern. The head and practically all of each shank must be cut off.

The methods recommended to butchers for salting cattle and calf-skins are as follows:

Salting is best carried out in a dry, cool room, or preferably in a cellar of even temperature and free from drafts. If many hides are to be stored the cellar should have a concrete floor and good drainage.

Before salting clean the hide thoroughly, removing the dirt, dung, and blood from both the hair and flesh sides, particularly the latter. A clean hide or skin is not so liable to spoil in spots while curing, and will sell well, as it presents a clean, bright appearance. Hides and skins are more easily freed from dung and dirt before the animals are felled, and during flaying care should be taken to keep



FIG. 37.—“Skinning out” the legs of a sheep.

the hides and skins from coming in contact with the blood from slaughtering. Blood spots especially damage and discolor the hide. Water should be used sparingly in cleaning the hides, and for the flesh side a clean, moistened cloth will suffice. Trim the hide nicely, removing all stringy pieces; cut off the dewclaws if any; split the ears with two cuts, and scrape away any flesh or meat, although the latter should not be present on a properly flayed hide or skin.

In allowing the animal heat to escape from the hides and skins it is permissible, if the weather is very cool, to let them lie overnight spread out singly with flesh side up. During warm weather, however, they should first be sprinkled lightly with fine salt. The questions of temperature and the right time to start salting are very

important, as the hides and skins should not be salted and piled while still warm, nor should they be allowed to remain unsalted too long or decomposition will set in. This happens often but does not show up until the hides are in the tanning process.

As soon as the hide or skin has completely lost its animal heat it is ready for salting. Spread it out perfectly flat and smooth on the floor, which has been previously sprinkled with clean, coarse salt. Select, if possible, a floor having a slight incline to promote

drainage. Always put the hair side down. Sprinkle the flesh side evenly with clean, coarse salt, using about a pound to a pound of hide. Be careful to salt uniformly and thoroughly and see that every spot the size of a dime has at least one grain of salt on it. Work the salt well into the heavy parts, such as the head, and also into every little place, particularly the edges. Be liberal in the use of salt; it will be economy in the end.



FIG. 38.—Skinning over the flank of a sheep. Use the knife carefully.

It is important to use clean, pure salt. Where quantities of hides and skins are handled there will soon be an accumulation of used salt which has been removed from the cured hides and skins before shipping. This old salt, if washed free from blood, dirt, and fine particles, may be used again when mixed with about twice its weight of new salt, but no old salt should be used on packs or piles which are not to be moved for some time. In fact, there is serious danger of damage to hides from the use of old salt. New, clean, pure salt is always to be preferred.

In curing 30 to 40 or more hides or skins, they may be placed in one stack by piling flat. Always stack with the flesh side up and the

heads at one end. Salt each hide or skin thoroughly after it is placed on the pile. In stacking, two men are required, one at each end of the pile. This is necessary to prevent the dragging of the hide across the under one and so disturbing the evenly distributed salt on it. When building these piles, care should be taken to keep them level. There is a tendency for the pile to thicken up in the middle, a tendency which limits the number of hides that may be placed in one pile. As soon as difficulty is experienced in keeping the middle down a new pile should be started.

After the stack or pile has been laid, the top hide should be liberally covered with salt, and the sides of the pile also be sprinkled with it. Hides may remain in these piles 4 to 6 weeks before shipping. They should not be shipped or moved in less than 10 days. Be sure that there is proper drainage at the bottom of the pile so as not to ruin the lower hides by the liquor formed during curing.

Some butchers make a practice, before stacking, of "banking" the hides and skins for from 24



FIG. 39.—"Fisting-off" a sheepskin. Note the position of the fist and the skin.

to 48 hours, and from their experience better cured hides, free from salt stains, are obtained. The object of banking is to give the salted hides and skins an opportunity to drain off the excess moisture and blood. A simple type of bank is an inclined platform with the rear end raised about 18 inches from the floor. The platform should be practically 12 feet long and of a width depending on the number of hides and skins handled at one time; each pile of hides will require about 8 feet.

The hides or skins are spread out smoothly on the platform, always flesh side up and with the heads at the lower end of the incline. Each one is well sprinkled with salt on the flesh side after it

has been laid out on the platform. From 25 to 50 hides can be piled safely one on top of the other. The hides and skins are allowed to lie on the bank from 1 to 2 days, after which they are piled or packed as previously described. When transferring the hides and skins from the bank to the pile, it will be necessary to sprinkle a little more salt over each one as it is laid on the pile. A careful watch should be kept for unsalted spots or sections not well supplied with salt, and if any

are found they should be completely covered with salt.

While the salting of calfskins and yearlings is practically the same as for cattle hides, some recommend the use of medium-fine salt for the first two. This is a good plan to follow, although the use of finer salt is not necessary. Horsehides may be salted in exactly the same way as cattle hides.

Sheepskins, however, require the use of fine salt. They must also be allowed a little more time to cool off, and should not be kept more than 5 or 6 days after salting.



FIG. 40.—“Stripping off” over the back of a sheep.

Since they have a tendency to heat very quickly and easily, it is advisable not to put more than 10 in one pile.

PREPARING HIDES AND SKINS FOR MARKET.

When about to ship cured hides and skins of the green-salted description, place them over some elevated object, such as a barrel; allow them to remain there overnight to drain free of excess moisture; after which free them of surplus salt by sweeping or thorough shaking. The latter is usually done five times on each side, over a solidly constructed, slightly elevated rack made of heavy timbers which are

set far enough apart to permit the salt to escape readily to the floor. If hides are handled as directed, the shrinkage should be relatively small when they are weighed at the hide house.

FOLDING AND BUNDLING HIDES AND SKINS.

The steps generally followed in folding and bundling hides for shipment are given below, and will be easily understood by studying the accompanying diagrams, in which the hair side is designated by shading. As a rule hides are folded so that the hair side is out.

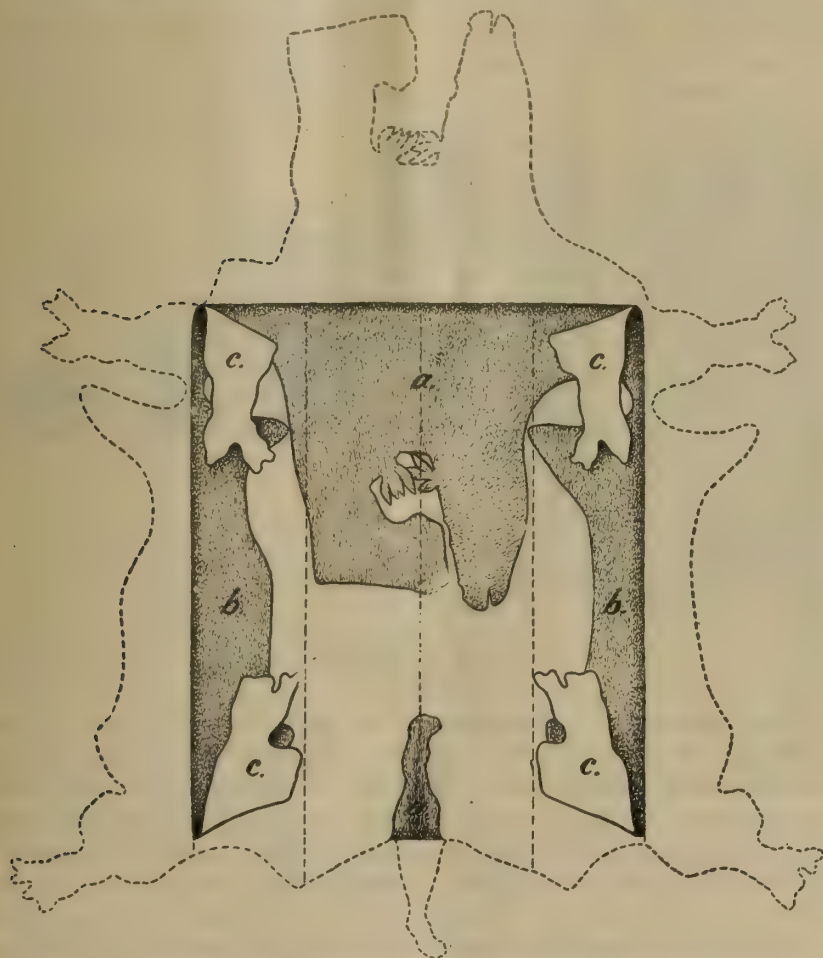


FIG. 41.—Folding and bundling: *a*, First step; *b*, second step; *c*, third step.

How to fold a hide.

- 1.—Fold in the head and neck on the body of the hide, flesh surfaces together, and turn in the tail, as shown by folds "a" in figure 41.
- 2.—Make a narrow fold on each side by throwing the belly edges and legs upon the body of the hide, flesh surfaces together, keeping the lines of the folds parallel, as shown by "b" in figure 41.

- 3.—Fold the legs back on these laps, hair surfaces together. See folds "c" in figure 41.
- 4.—Bring the break of each fold near the middle line of the back, as shown by folds "d" in figure 42.
- 5.—Complete the side folds by bringing the two breaks of the folds thus made together, with the middle line of the back as the main fold, thus making one long, rectangular bundle, as shown by "e" in figure 42.
- 6.—Throw the butt end of the folded hide forward about four-fifths of the distance to the neck fold. See "f" in figure 42.
- 7.—Fold the forward portion of the bottom lap back on top of the first fold. See "g" in figure 42.
- 8.—Bring the break of the rear fold even with that of the fold just made. This makes a neat, square bundle, ready for tying. See "h" in figure 42.

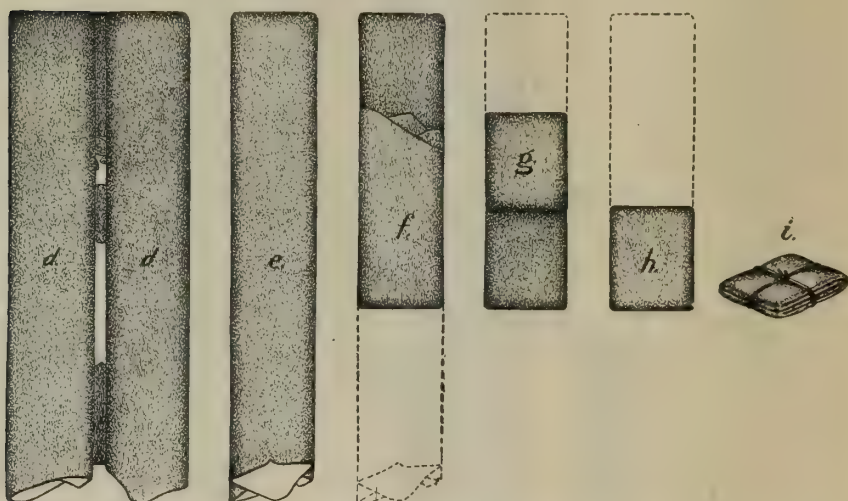


FIG. 42.—*d*, Fourth step; *e*, fifth step; *f*, sixth step; *g*, seventh step; *h*, eighth step; *i*, bundled and tied.

Each hide is bundled separately and tied securely. About 7 feet of strong cord will be needed to tie one hide bundle. A soft rope or line at least a quarter of an inch thick will answer the purpose well, though regular hide rope is preferred. Information regarding suitable rope, the nearest source of supply, and approximate prices may be obtained from hide dealers. Tie the bundle tightly by passing the rope around it in two directions. See "i" in figure 42. Wire should never be used, as it is liable to damage the hide by rusting.

Calfskins are folded in exactly the same way as cattle hides. However, when more than one are to be shipped place two folded skins together and tie into one bundle instead of tying each one separately.

Sheepskins are bundled differently from either cattle hides or calfskins. Lay the wool sides down, and fold the skins along the median line of the back, having the wool side out. As many as five

skins folded in this manner can be placed in a single bundle for shipment. It is not advisable to place more than that number in one bundle, as the wool helps to generate heat very rapidly. Two pieces of stout rope are then wound around the pack from back to belly, one passing around the back portion just in front of the hind legs and the other passing around the front portion immediately back of the fore legs.

All bundles must be tied securely, and in making knots the nautical bowline knot is preferable, as it does not slip easily. Bundles often become untied or otherwise lose their identification marks, and in such cases the railroad employees have no means of determining the identity of either shipper or consignee, especially if there are other hide shipments in the car.

TAGGING.

Each bundle should be tagged securely with the name and address of the dealer, to whom shipped, on one side of the tag, and on the other side, after the word "From —," the name and address of the shipper. Be sure the tag can not come off. Ordinary paper tags are not safe, as they are too easily destroyed or pulled off. Good, strong, linen tags with a paper finish and brass eyelets are preferred. All addressing should be done plainly in ink. Pencil marks often become illegible. Remember that if the bundle becomes unwrapped or if the tag pulls off, the hides and skins are liable to be lost.

SHIPPING.

After the hides and skins have been properly and securely bundled and tagged ship them without delay. Do not let the bundle remain in the sun, draft, or water, or against rusty or corroding metals. Promptness in shipping and delivery is always advisable, but applies particularly to sheepskins. They heat rapidly after being bundled, and in hot weather especially must reach their destination quickly.

Hides and skins should be shipped as directly as is practicable and economical to reliable hide dealers who sell direct to tanners, thus eliminating unnecessary middlemen or agents. Repeated handlings tend to reduce the quality of hides and skins. For most farmers, ranchmen, and small butchers it would, no doubt, be desirable if they could dispose of their hides and skins immediately after removal, without salting and curing them. As a rule, however, this is entirely impracticable, since only a few are near enough to tanneries or dealers equipped to handle their products. When so favorably situated producers doubtless will find it both profitable and practicable to sell the hides and skins in the green, unsalted condition. In no case, however, should this method be considered unless the producer is absolutely certain of delivering the green hides and

skins promptly, within, as a safe rule, 24 hours after skinning. Otherwise any benefits that might be derived will be more than offset by deterioration and decay.

At all times, and especially in warm weather, it is impracticable to ship green hides and skins any distance. They will taint and putrefy almost as easily as fresh meat. If for necessary cause they must be shipped at once they should be salted heavily enough to prevent deterioration in transit. Besides the great chance for loss from decomposition, the requirements of the express companies that all green hides and skins be shipped in tight boxes, barrels, or kegs, make this method unprofitable, because of the expense of these containers and of the extra cost of transportation.

MARKET CLASSES OF HIDES AND SKINS.

Most farmers, ranchmen, and many local butchers are unfamiliar with the specifications for the various market classes and grades of hides and skins and with their relative values and the corresponding market price. Such knowledge would place the country-hide producer on a more equal footing with the buyer and enable him to demand and receive prices in accordance with the quality of his products. Misunderstanding and suspicion, which serve only to handicap the industry, also would be less frequent.

CLASSES AND GRADES OF PACKER HIDES AND SKINS.

With a few minor changes in the descriptions, the data given below are the same as those recently issued by the War Industries Board.

GRADES.

Grubs.—During certain times of the year, hides and skins are often damaged by grub holes, and because of this a selection or grading based on the number of grub holes is generally made during the grubbing season. Packer hides with fewer than 5 grub holes are graded as No. 1, while those with 5 or more are graded as No. 2. The grubbing seasons are as follows: On Texas steers and branded cows, from November 1 to June 1; on Colorados from December 1 to June 1; on native steers (including "spreadies"), "butt-brands," and native cows, from January 1 to June 1.

Hair slips and cuts.—Packer hides are classed as No. 1 except when there are hair slips or a cut in the body of the hide which can not be trimmed out without spoiling the pattern. Such hides are classed as No. 2 or as glue stock,¹ depending upon the extent of the damage. A No. 2 hide generally sells at 1 cent a pound less than a No. 1 hide of similar class and weight.

¹ There is no exact definition for glue hides. Generally hides that are tainted, or have hair slips or many grub holes, or are of extremely irregular pattern are in this class.

CLASSES.

Native steers are unbranded steer hides, native meaning simply unbranded. They are selected as follows and are sold as such regardless of place of origin.

Spread native steers are steer hides free from brands, weighing 60 pounds and up¹ and measuring 6½ feet and over just behind the brisket. From June to December, inclusive, they are sold as No. 1 only. During January to May, inclusive, they are sold on a grub selection. The koshers of this selection may be sold on the same measurements, or 6 feet 8 inches and over, according to custom.

Heavy native steers are heavy, unbranded steer hides, weighing 60 pounds and up. They are graded as No. 1 and No. 2.

Light native steers are unbranded steer hides weighing from 50 to 60 pounds. They are graded as No. 1 and No. 2.

Extreme light native steers are unbranded steer hides weighing from 25 to 50 pounds. They are graded as No. 1 and No. 2.

Texas steers are branded steer hides, and a special selection for small, close-pattern, plump hides originally from the ranges of Texas and vicinity, but now sold as such regardless of place of origin. At Fort Worth all branded steer hides are classed as Texas steers, irrespective of size.

Heavy Texas steers are specially selected, branded steer hides weighing 60 pounds and up. They are graded as No. 1 and No. 2.

Light Texas steers are specially selected, branded steer hides weighing from 50 to 60 pounds. They are graded as No. 1 and No. 2.

Extreme light Texas steers are specially selected, branded steer hides weighing from 25 to 50 pounds. They are graded as No. 1 and No. 2.

Butt-branded steers are steer hides which carry one or more brands on the rump and are sold as one class without regard to origin

Heavy butt-branded steers are butt-branded steer hides weighing 60 pounds or over. They are graded as No. 1 and No. 2.

Light butt-branded steers are butt-branded steer hides weighing from 50 to 60 pounds. They are graded as No. 1 and No. 2.

Extreme light butt-branded steers are butt-branded steer hides weighing from 25 to 50 pounds. They are graded as No. 1 and No. 2. Selection is seldom made for this grade, as they are usually sold in with extreme light Texas steer hides or with light butt-branded hides.

Colorado steers are western side-branded steer hides generally from range cattle and usually are spreadier and less plump than the Texas steer selection. They are so classed irrespective of their origin. The distinction between butt-branded and Colorado hides is based on the location of the brand. Butt-branded hides, as stated

¹ All selections as to weight are on the green salted basis.

above, are those with one or more brand marks on the rump. If the brand extends more than 18 inches up from the butt end, the hide is classed as Colorado.

Heavy Colorado steers are western side-branded steer hides weighing 60 pounds and up. They are graded as No. 1 and No. 2.

Light Colorado steers are western side-branded steer hides weighing from 50 to 60 pounds. They are graded as No. 1 and No. 2. No selection is made for extreme light Colorado steer hides. The weights from 25 to 50 pounds of this description are sold with branded cows, or with extreme light Texas steer hides.

Native cows are unbranded cowhides.

Heavy native cows are unbranded cowhides, weighing 55 pounds and up. They are graded as No. 1 and No. 2.

Light native cows are unbranded cowhides, weighing from 25 to 55 pounds. They are graded as No. 1 and No. 2.

Branded cows are both butt and side-branded cowhides and are sold flat for all weights from 25 pounds up. They are graded as No. 1 and No. 2.

Native bulls are bull hides free of brands. They are not selected on a weight basis but are sold flat for all weights 25 pounds and over. They are graded as No. 1 and No. 2.

Branded bulls are branded bull hides and are sold flat for all weights 25 pounds and over. They are graded as No. 1 and No. 2.

Kipskins are heavy veal skins weighing from 15 to 25 pounds. They are graded as No. 1 and No. 2. All heavy veal skins weighing over 25 pounds are called hides; in some markets those weighing from 25 to 35 pounds are called overweight kips.

Branded kipskins are skins carrying side or butt brands. They are graded as No. 1 and No. 2.

Heavy calfskins weigh from 8 to 15 pounds. They are graded as No. 1 and No. 2.

Light calfskins weigh from 7 to 8 pounds. They are graded as No. 1 and No. 2.

Deacon skins are from newly born calves.

Slunk skins are from stillborn calves.

"**Koshers**" or "**cutthroats**" are hides and skins from "koshered" cattle or cattle killed according to the requirements of the Jewish religion. They are classified and graded as other hides and skins, but usually sell for one-half cent a pound less, because of the marred pattern which results from cutting the throat crosswise instead of lengthwise.

CLASSES AND GRADES OF COUNTRY HIDES AND SKINS.

The grade terms employed in marketing country hides and skins are somewhat indefinite and are not uniformly understood and applied throughout the United States. At present there is no recog-

[illegible]

Because of these conditions the hide trade has divided the United States into nine sections, and discriminated accordingly in the prices paid for similar classes and weights of hides and skins originating in the various sections.

In classifying country hides and skins and establishing maximum prices for them, the War Industries Board recognized these sectional groups and fixed a maximum price for each tentative grade in each section. The sections appear below about in the order of their relative importance as indicated by the official price list of the War Industries Board. (See fig. 43.)

Nine sections of the United States recognized in the hide trade.

1. Ohio, Indiana, Pennsylvania, West Virginia, and Michigan.
2. Kentucky, Tennessee, Maryland, North Carolina, Virginia, and District of Columbia.
3. Maine, Vermont, New Hampshire, Massachusetts, New York, Connecticut, Rhode Island, Delaware, and New Jersey.
4. Illinois, Kansas, Missouri, Iowa, Nebraska, Wisconsin, Minnesota, and eastern parts of North Dakota and South Dakota.
5. California, Utah, Oregon, Washington, Nevada, and Idaho.
6. Texas, Oklahoma, Arkansas, and Louisiana west of the Mississippi River.
7. Florida, Alabama, Mississippi, Georgia, South Carolina, and Louisiana east of the Mississippi River.
8. Colorado, Wyoming, Montana, and western parts of North Dakota and South Dakota.
9. Arizona and New Mexico.

The classifications and definitions given below apply to country hides and skins. Owing to the absence of uniform grade standards, it is difficult to give definitions of grades which will apply in all sections.

Heavy native steers are unbranded steer hides weighing 60 pounds or over. They are graded as No. 1 and No. 2.

Light native steers are unbranded steer hides weighing 50 to 60 pounds. They are graded as No. 1 and No. 2.

Heavy native cows are heavy, unbranded cowhides weighing 60 pounds and up. They are graded as No. 1 and No. 2.

Bufs¹ are unbranded steer,¹ cow, and bull hides weighing from 45 to 60 pounds. They are graded as No. 1 and No. 2. (In some sections butt-branded hides of these weights are included and graded as No. 2.)

Extremes (extreme lights) are unbranded steer, cow, and bull hides weighing from 25 to 45 pounds. They are graded as No. 1 and No. 2. (Butt-branded hides of these weights are included in some sections and graded as No. 2.)

Heavy bulls (also heavy native bulls) are heavy, unbranded bull hides weighing 60 pounds up. They are graded as No. 1 and No. 2.

Heavy branded bulls are side or butt-branded bull hides weighing 60 pounds and up. They are graded as No. 1 and No. 2.

Branded hides are side or butt-branded hides, or both, from steers, cows, and bulls. Usually they are range and Texas hides. They are sold flat for all weights from 25 pounds up, and are graded as No. 1 and No. 2.

Kipskins are heavy calfskins weighing from 15 to 25 pounds except in the southeastern and western coast sections, where the weight range is from 15 to 30 pounds. They are graded as No. 1 and No. 2.

¹ Unbranded steer hides from 50 pounds to 60 pounds are classed as bufes when not selected for light native steers.

Heavy calf are calfskins weighing from 8 to 15 pounds. They are graded as No. 1 and No. 2.

Light calf are calfskins weighing from 7 to 8 pounds and are graded as No. 1 and No. 2.

Deacons are skins from very young calves. As a rule they weigh less than 7 pounds.

The War Industries Board in 1918 issued the following descriptions and data in connection with its regulation of trading in hides and skins:

The following applies to the selection of all country hides which are sold on the basis that they are free of ticks and brands (ticky and branded hides are not classed as No. 2 in sections where the maximum prices already allow for same). The price of No. 2 hides is 1 cent per pound under the No. 1 price.¹

No. 2 hide description:

Any cut over 6 inches in from the edge.

Over 5 bad scores (cuts not extending through the hide).

Butt brands.

5 grubs.

1 grain slip.

1 rubbed area where the grain is gone.

1 dragged area where the grain is gone.

1 sore area where the grain is gone.

A No. 1 hide must be not only of good pattern and trim (see fig. 22), but must also be free from any one of the above-mentioned conditions.

PACKER AND COUNTRY CLASSES COMPARED.

The following tabulation of the market classes and grades of packer and country hides and skins is arranged as nearly as possible with the comparable selections in each group opposite one another.

Packer hides and skins.

Country hides and skins.

Spready native steers, 60 pounds up-----None.

Heavy native steers, 60 pounds up-----Heavy native steers, 60 pounds up.

Light native steers, 50 to 60 pounds-----Light native steers, 50 to 60 pounds.

¹ Branded hides are graded as No. 1 and No. 2, when the trading is on a branded basis; otherwise they may be graded as No. 2. Ticky hides likewise may be graded as No. 1 and No. 2 when the trading is on a ticky-hide basis. The following rules relating to this subject were published by the War Industries Board in 1918:

"Side branded and ticky hides shall be sold at 2 cents per pound reduction for each. For example, if the price of No. 1 native hide is 21 cents per pound, then the price of the ticky or side branded hide will be 19 cents per pound. If the hide is both side branded and ticky then the price will be 17 cents per pound.

"Cutthroats shall sell at one-half cent per pound reduction in all cases. (No hide shall be deemed a cutthroat if 4 inches remain between the edge of the cut and the center of the butt of the ear on each side.)

"Heads hanging by string necks shall be cut off. If left on, they should be billed back at the price of glue stock.

"All hides shall be free of meat, tail bones, switches, sinews, horns, bags, split shanks, mud, and manure. (If mud and manure can not be removed, it must be allowed for.)

"Curing hides in vats, barrels, or other water-tight containers must be stopped. The use of preparations for false weighting is prohibited."

Packer hides and skins.	Country hides and skins.
Extreme light native steers, 25 to 50 pounds.	Bufs (steers), 45 to 50 pounds.
Heavy native cows, 55 pounds up-----	Extremes (steers), 25 to 45 pounds.
Light native cows, 25 to 55 pounds-----	Heavy native cows, 60 pounds up.
Heavy Colorado steers, 60 pounds and up---	Bufs (cows), 45 to 60 pounds.
Light Colorado steers, 50 to 60 pounds-----	Bufs (cows), 45 to 60 pounds.
Branded cows, including Colorado steers, 25 to 50 pounds-----	Extremes (cows), 25 to 45 pounds.
Heavy butt-branded hides, 60 pounds up---	Branded hides, except branded bulls, 25 pounds up. (In some sections butt- branded steer hides are classed as No. 2, native steers, bufs, or extremes, according to weight.)
Light butt-branded hides, 50 to 60 pounds---	
Extreme light butt-branded hides, 25 to 50 pounds-----	
Native bulls, all weights-----	Heavy native bulls, 60 pounds and up.
	Bufs (bulls), 45 to 60 pounds.
	Extremes (bulls), 25 to 45 pounds.
Branded bulls, all weights-----	Branded bulls, 25 pounds and up; special selections for branded bull hides, 60 pounds up.
Kips, 15 to 25 pounds-----	Kips, 15 to 25 pounds.
Heavy calf, 8 to 15 pounds-----	Heavy calf, 8 to 15 pounds.
Light calf, 7 to 8 pounds-----	Light calf, 7 to 8 pounds.
Deacons, up to 7 pounds-----	Deacons, up to 7 pounds.

METHODS OF MARKETING HIDES AND SKINS.

While improvement of country hides and skins and consequent increase in returns for them are possible, yet even with hides and skins similar in quality to those produced by the packers it is not possible for the individual producer, who must operate on a small scale and market more or less indirectly, to receive the top prices paid to the packers, who generally sell directly to the tanners.

The tannery is generally the destination of all hides and skins, and efficient and economic marketing will place them at the tannery door at the earliest practicable date in the best condition possible and with the aid of only the essential marketing agencies. Each tannery, however, as a rule, specializes in certain kinds of leather, and consequently must have uniformity in its supply of hides and skins. Since the tanner is not in position to handle all kinds and classes of these materials, some central collecting and classifying agency is necessary.

It is here that the packers have an incalculable marketing advantage over the country-hide producers. The packers deal in large numbers of hides and skins and as a result can assort and classify them in marketable lots, and sell them directly to the tanner or with the occasional intervention of only one agency, namely, the hide broker or tanner's buyer. The extremely scattered sources and the comparatively small individual production of country hides and skins make it impossible for the country-hide producers to obtain this advantage. These widely scattered materials first must be collected and classified in large lots. Consequently, before reaching the

consumer or tanner, they pass through many hands, each one of which exacts its toll.

The marketing of country hides and skins is characterized by a large amount of lost motion. Many of the present systems support expensive, nonessential, wasteful, profit-absorbing, and speculating intermediaries, which operate, possibly unintentionally but inevitably, to suppress this branch of the industry and to discourage the quality of workmanship upon which values so largely depend. The most direct and practicable manner of marketing by the producer should result in the greatest profits to him.

COMPARISON OF THREE PREVAILING METHODS.

The relative efficiency of the three prevailing methods of marketing domestic hides and skins is illustrated by figure 44. The movement to market is shown by lines, the heavier ones of which show the course taken by the greatest number of hides. The circles with X inscribed represent agencies whose services are considered by many producers, dealers, and tanners as not essential to economic hide marketing. The operations between hide dealers of equal importance, which often reach considerable proportions and are considered by many as uneconomic, and those between tanners, which are negligible, are not shown in the diagrams.

The extravagant system generally followed in marketing country hides is illustrated by A in figure 44.

B in figure 44 illustrates the direct or consignment method of marketing, which is employed and strongly advocated by some country-hide producers and dealers. In this method, the local dealer who was indicated in A as nonessential is retained because in many cases he performs and, until a better trade understanding is reached between producers and large dealers, will continue to perform a real service. He acts not as a speculator but principally as the agent of the producer who is not familiar with methods of marketing or who desires to be relieved of personal responsibility in preparing and marketing his products.

C in figure 44 shows the agencies and channels used by the large packers in marketing their hides and skins. The superiority and advantages of this system are apparent at a glance. There is no lost motion, and no opportunity for speculation at the expense of the producer. The only intermediary is the broker or the tanner's buyer, and even their services are often dispensed with. By this method the cost of marketing is negligible as compared with the other two methods. In it the producer—that is, the packer—participates much more fully in the market prices of his products.

The direct or consignment method illustrated by B in figure 44 eliminates much lost motion, much of the speculation, and many of

the abuses which are now practiced in marketing country hides. It approaches more nearly the packer's method, and provides a means whereby the small producer may participate more fully in the prices that his hides and skins bring on the market. Consignment marketing presupposes mutual confidence and fair dealing by both producer and dealer; otherwise it can not succeed. The principal obstacles in

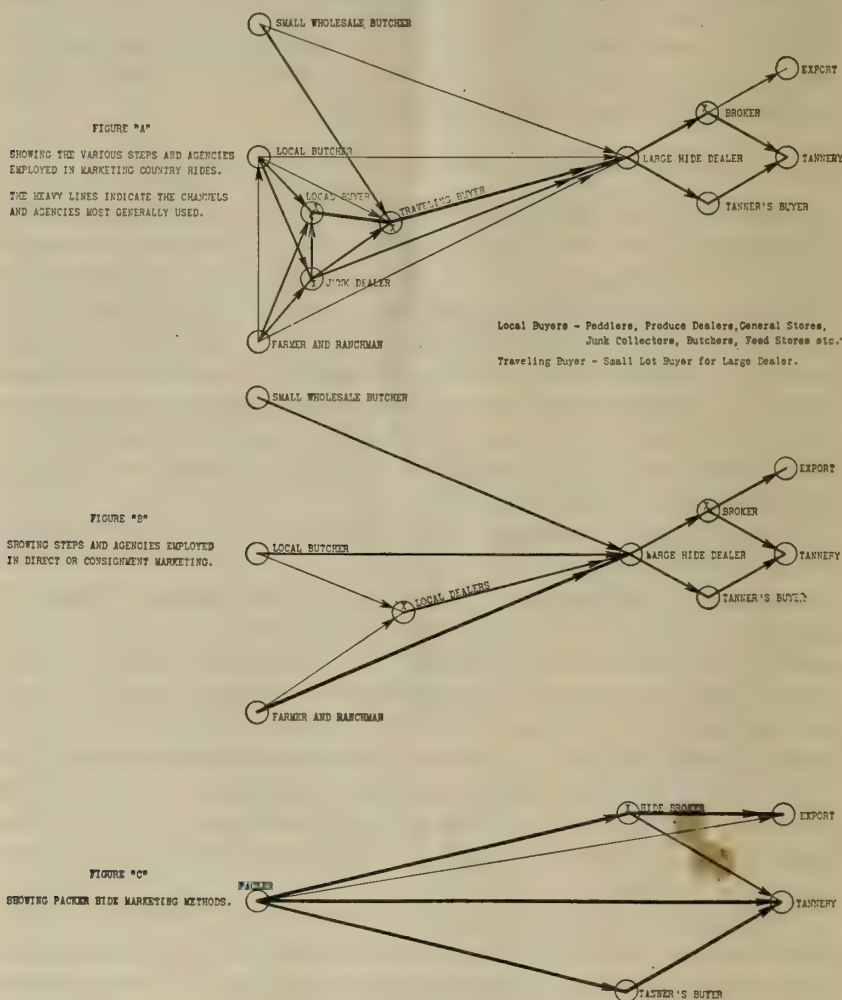


FIG. 44.—Methods of marketing domestic hides and skins compared.

the way of this method are the producer's preference for ready cash, his distrust of the distant dealers, and the elimination of local competitive buying. Unfortunately many producers prefer to accept any price obtainable from local buyers, such as general stores, produce dealers, junk collectors, peddlers, and traveling hide buyers, rather than to consign their hides to unknown car-lot dealers in central markets.

While ideal conditions require the elimination of all these except the latter agencies, the opinions of the trade are divided over the practicability of dispensing with the services of the traveling hide buyers or agents of the large hide dealers in central markets. Their salaries and traveling expenses range from half a cent to 3 cents a pound of the hides they buy, depending on the volume of business they do and their efficiency in buying. Those opposed to these agents advocate marketing direct from producer to the large dealers who sell direct to tanners. They assert that the expense necessary to the maintenance of a traveling buying force should be paid to the producer or be used in reducing the cost of leather products. Those who favor the retention of these agents state that many hides would never reach the market and that there would be more damaged ones than at present, with consequent disastrous results to the country-hide industry, because of the absence of local competitive buying. They maintain that without the traveling buyer the producer would be at the mercy of the unscrupulous and unrestrained consignment-hide buyer.

The logical agency, however, with which the small producer should deal when seeking to market his hides and skins direct, is the large hide dealer, who assembles the nondescript lots of hides from hundreds of small slaughterers and dealers and prepares and classifies them according to the demands of the tanners, to whom he offers them in carload lots.

CARELESS HANDLING AND REPREHENSIBLE PRACTICES PENALIZED IN MARKETS.

Another serious factor in the country-hide situation is an evil reputation, frequently deserved at present, but which persists even in meritorious cases. Many farmers, ranchmen, and small butchers, who see only the value of the meat on the animals which they slaughter, treat the hides and skins indifferently and carelessly, and look upon them as waste products for which any price is so much clear gain. Then, too, some of the traders and producers often resort to unnecessary and questionable uses of salt, pickle, and other chemicals in order to prevent shrinkage, to add false weight, or to replace the weight lost through natural shrinkage. Applying water to green-salted hides just prior to their sale for the purpose of adding weight is an equally reprehensible practice.

These questionable and dishonest practices do not deceive experienced hide buyers and tanners, who demand liberal reductions in tare and in prices when purchasing hides thus treated. There does result, however, a national economic loss, since by this ill treatment the greatest usefulness of these hides and skins is destroyed. Such treat-

ment serves only to invite penalties in the form of low prices, not only for those sold at the time but also for future offerings, as dealers, brokers, and tanners, remembering the defective hides and skins and anticipating more, make their price arrangements as a matter of protection. Often these prices are inequitable, because the penalties generally are spread over all hides of the country description.

Because of the existence very generally of these inferior qualities, of the lack of careful selection and classification, and of the apparent inclination of many persons connected with the trade to magnify and to capitalize alleged defects, many of the country-hide producers feel that no amount of precaution and efficiency on their part would be rewarded by better prices. Though some of them realize that hides have values and that these values depend largely on carefulness and efficiency in skinning and curing, they often, because of the evil repute of country hides and skins as a class, fail to find a ready market at reasonable prices, even though the hides they offer have been handled properly.

SELECTED AND GRADED SALES COMPARED WITH FLAT SALES.

When a producer is paid as much for hides and skins which have cuts, scores, fleshings, horns, dewclaws, tail bones, sinews, hair slips, salt stains, poor pattern and trim, dragged spots, brands, grubs, and other imperfections as for those which are comparatively perfect, he is paid a premium for inefficiency and has no incentive to improve his methods or to strive for greater conservation. This applies to a less extent when hides are sold on a graded basis with only light penalties for the results of carelessness.

No farmer would sell a fat steer for the price of an old cow. There is no more reason for selling perfect hides and imperfect ones at the same price, for the chances are that the price will be on the basis of the inferior ones.

The hitherto almost universal practice of selling country hides and skins at flat prices without regard to selections and grades based upon quality, weight, and condition has contributed in a large way to the present condition of country hides and skins, with the consequent tanner's aversion to them and the wide margin between the market prices of such hides and of packer hides. The practice of flat selling is not suited to modern methods of marketing and has been abandoned by all progressive producers and merchants in nearly every line of merchandise.

A long stride forward was made when the War Industries Board in 1918 issued orders requiring all hides and skins to be sold by

classes and grades. The maximum results of this progressive measure, however, will be deferred until the various methods of grading have been revised, simplified, correlated, and faithfully applied to the trading in all sections of the country. There should be well-defined classes and grades, not only for packer but also for country hides and skins. In fact, a single standard for all hides and skins by means of which they can be graded and sold on merit,*regardless of origin, is desirable and deserves serious consideration. A standardized basis for trading should make it possible for the country producers to realize prices more nearly commensurate with the quality of their products. As a result, carelessness and much inefficiency should soon be overcome and a marked improvement in the merchantability and market prices of hides and skins of the country class should follow.

ESSENTIAL POINTS.

Country hides and skins are an important source of the raw material of the leather industry. Tanners buy these raw materials on their merits, paying a price based largely on the quality and quantity of the leather they yield and on the uses to which the leather can be put.

Improvement in the country branch of the hide and skin industry is absolutely necessary to put it upon a more economic basis. Much will be accomplished in this direction by continuing to trade strictly on a graded or selected basis, according to relative merits, and by avoiding many of the profit-absorbing intermediary agencies through more direct marketing by the rural producers. In this way country producers should not only derive more profits but the profits should be commensurate with the quality of their products, a condition which will prove an incentive to produce hides and skins of the best possible quality.

Producers of country hides and skins should bear in mind the following essential points:

Take-off or skinning.

1. Before killing clean off as much as possible all manure, dirt, mud, etc., and during skinning keep the hides and skins clean and free from blood especially.
2. In bleeding cattle always stick the throat lengthwise; never crosswise.
3. In skinning use the knife carefully and no more than is necessary. Avoid cutting the hide or skin.
4. Make all ripping cuts with straight, smooth edges, not jagged ones.
5. Pay attention to the pattern of the hide and see that it is properly distributed among the shoulder, belly, and butt sections.
6. Take off a hide or skin free from meat, sinews, bag, tail bone, horns, dew-claws, and split shanks.

Salting and curing.

7. Keep the hide or skin clean and away from water.
8. After removing the hide or skin from the animal allow the hide or skin to lie separately in a cool, dry, dark place from 6 to 12 hours, with the flesh side up, until the animal heat has escaped.
9. Do not let the hide or skin dry out either before or after salting.
10. Do not allow the hide or skin to freeze.
11. Use only fresh, clean salt.
12. Use plenty of salt; too much will do no harm; too little will. Use about 1 pound of salt to each pound of hide.
13. Salt more thoroughly the heavy parts, such as the head and neck, and also open up any folds that may be stuck together and sprinkle them with salt.

Shipping and marketing.

14. Before bundling remove excess of salt by sweeping or shaking.
15. Bundle properly according to the nature of the hides or skins.
16. Tie all bundles tightly and securely, and tag each one as directed. Be sure that the tag can not come off and see that it is clearly and lastingly addressed.
17. After the preparation for shipment, ship promptly.
18. Trade directly with the most practicable and profitable agency, avoiding all unnecessary middlemen or agencies.
19. Always bear in mind the benefits to be derived from superiority, and strive constantly to improve the methods practiced.

APPENDIX.

MARKET PRICES.

Three distinct fields of inquiry feature prominently in a study of present price conditions affecting the hide and leather industry: First, the difference between the prices of raw and finished products; second, the difference of 4 to 10 cents a pound between the market prices for comparable classes and grades of country and packer hides and skins; and, third, the difference of 8 to 15 cents a pound between the prices received for these products by farmers and small butchers and those quoted for them on the market.

The unusual price conditions affecting the raw and finished products involve factors that are peculiar to periods of general economic disturbances and are not confined to the products of the hide and leather industries.

In order to facilitate a study of the price conditions and relations involved in marketing domestic hides and skins, exhibits have been appended (pp. 55-62) which contain data, graphs, and other information bearing directly on this subject.

Exhibit I shows the maximum prices and differentials that were established by the War Industries Board for domestic hides and skins during the three months ended January 31, 1919. Attention is called to the varying prices quoted for similarly described classes and grades of country hides and skins originating in different sections of the country and to the contrast between these and packer hides and skins in this respect. It should be noticed also that the prices for the January take-off are less than those for hides and skins taken off during November and December, due in part to the longer hair and the correspondingly greater amount of adhering dirt. This emphasizes the influence of seasons of the year upon the quality and consequent value of these products.

Exhibits II and III show the average market prices of packer and of country hides by grades for each month in 1918 and for each year from 1898 to 1918, inclusive. These exhibits are of special value in that they show the trend of market prices for each general group of domestic hides, by grades, over a period of 20 years.

Exhibit IV shows by graphs the spread and trend of market prices of comparable grades of packer and country hides from 1909 to 1918, based on the average prices for each year, except 1918. The prices

indicated in the graphs for 1918 show the price relations existing March 16, when the downward trend which started in November and December of the previous year was checked. This also was prior to the inauguration of the Government's price-fixing program, which became effective in May.

Exhibit V is a graphic presentation of similar information by monthly periods from January, 1917, to June 29, 1918. This graph is of value in that it shows the price conditions existing immediately preceding the declaration of war and during the war until the Government's price regulation had been in operation about 2 months. The decline in the prices of country hides on June 1, 1918, as shown in the graph, is apparent only. The prices recorded from May 4 to June 1 were those established by the War Industries Board for hides taken off from May 1 to July 31. The prices recorded from June 1 until June 29 were actual market prices of hides removed prior to May 1. The relatively high price levels shown for packer hides from May 4 to June 29 were based on contracts and sales at the established prices of hides taken off from May 1 forward. In other words, the packer take-off from May 1 forward was on the market, while the country take-off for that period had not reached the market.

When comparing market prices or estimating the probable values of fresh hides or skins, farmers and small butchers should bear in mind that the quality and consequent prices of these products vary with the seasons in which they are removed from the animal, and that the market quotations are average prices for large lots of cured and carefully selected hides and skins which have shrunk from 12 to 18 per cent and sometimes 20 per cent from the green weight, and not for single or small lots of hides such as they have to offer. They also should remember that the prices that they may receive will depend largely upon the kinds and number of dealers or agencies that handle their products through the various marketing channels and on the speculative features involved in the market prices that may obtain when these products finally reach the central markets.

EXHIBIT I.

SCHEDULE OF MAXIMUM PRICES ON HIDES AND SKINS.

The maximum prices for packer and country hides and skins as fixed by the War Industries Board for November and December, 1918, and January, 1919, are given herewith.

Packer hides and skins, maximum prices.

The maximum prices (in cents per pound) named below apply to the best standard of packer hides. All other packer hides shall sell at relatively lower values:

	November— December, 1918.	January, 1919.
Heavy native steers, No. 1.....	29	28
Heavy native spready, No. 1.....	30	29
Light native steers, No. 1.....	28	27
Extreme light native steers, No. 1.....	23	24
Heavy butt-branded steers, No. 1.....	27	26
Light butt-branded steers, No. 1.....	26	25
Extreme light butt-branded steers, No. 1.....	22	21
Heavy Colorado steers, No. 1.....	26	25
Light Colorado steers, No. 1.....	25	24
Extreme light Colorado steers, No. 1.....	22	21
Heavy Texas steers, No. 1.....	27	26
Light Texas steers, No. 1.....	26	25
Extreme light Texas steers, No. 1.....	23	22
Branded cows, No. 1.....	22	21
Heavy native cows, No. 1.....	27	26
Light native cows, No. 1.....	23	22
Native bulls, No. 1.....	20½	19½
Branded bulls, No. 1.....	18½	17½
All koshers at ½ cent discount, No. 2's 1 cent less.		
Kip, No. 1.....	26	25
Overweight kip, No. 1.....	24½	23½
Branded kip, No. 1.....	21½	20½
Calfskins, No. 1.....	40	40
No. 2's, 1½ cents less.		

Calfskins (not otherwise provided for).

1. The maximum prices set on large, first-salt skins, outside city skins, and country skins do not apply to the Pacific coast.

2. All calfskins shall be free of tail bones.

3. Chicago City first-salt calfskins, and other large, city first-salt calfskins, 40 cents per pound for No. 1's. (Same selection and rules as mentioned on countries.)

4. Light 7/8 pounds, \$2.95 per skin; deacons, \$2.80 per skin.

5. New York City trimmed calfskins and other Eastern city trimmed calfskins equal in all respects to New York City.

4/5 pounds per skin.....	\$2. 80	12/17 pounds per skin.....	\$6. 50
5/7 pounds per skin.....	3. 60	17/25 pounds per skin.....	6. 50
7/9 pounds per skin.....	4. 50	Buttermilk skins at 15 per cent dis-	
9/12 pounds per skin.....	5. 40	count.	

6. Other eastern trimmed calfskins, not equal in all respects to New York City skins, shall sell at relatively less, according to their value. Nobody shall be allowed to give the butcher a bonus, because this practice is construed to mean paying more than the maximum.

7. The selection on calfskins sold by the piece is as follows:

A No. 2 skin is one with a cut an inch and a half in from the edge, or with a bad sore, with a horn scratch or a wire scratch, or with the grain damaged in any way—such as a slip, or a skin that has a poor pattern.

A No. 3 skin is one that is very badly cut or very badly slipped, or one whose pattern is damaged so badly that the cutting space is limited.

The reduction for No. 2's on trimmed skins is as follows:

10 cents on 4 to 5's.

15 cents on 5 to 7's, 7 to 9's, 9 to 12's.

20 cents on 12 to 17's.

25 cents on 17's and up.

Country hides and skins, maximum prices.

	November and December, January, 1918. 1919.	
	1918.	1919.
1. Ohio, Indiana, Pennsylvania, West Virginia, Michigan:		
Extremes, 25-45 pounds, No. 1, per pound-----	\$0.21 $\frac{1}{2}$	\$0.20 $\frac{1}{2}$
Bufs, 45-60 pounds, No. 1, per pound-----	.20 $\frac{1}{2}$	.19 $\frac{1}{2}$
Heavy native steers, 60 pounds and up, No. 1, per pound--	.23 $\frac{1}{2}$	.22 $\frac{1}{2}$
Light native steers, 50-60 pounds, No. 1, per pound-----	.22 $\frac{1}{2}$	.21 $\frac{1}{2}$
Heavy native cows, 60 pounds and up, No. 1, per pound---	.22 $\frac{1}{2}$	.21 $\frac{1}{2}$
Bulls, 60 pounds and up, No. 1, per pound-----	.16 $\frac{1}{2}$	.15 $\frac{1}{2}$
Kips, 15-25 pounds, No. 1, per pound-----	.23 $\frac{1}{2}$	.22 $\frac{1}{2}$
Calf, 8-15 pounds, city first-salt, equal to Chicago No. 1, per pound-----	.40	.40
Other first-salt city skins at relative value.		
Calf, city resalted, 5 per cent less than similar first-salt skins.		
Calf, country, No. 1, per pound-----	.34	.34
Light calf, 7-8 pounds, per skin-----	2.50	2.50
Deacons, per skin-----	2.30	2.30
2. Kansas, Illinois, Missouri, Iowa, Nebraska, Wisconsin, Min- nesota, North Dakota, and South Dakota:		
Extremes, 25-45 pounds, No. 1, per pound-----	.20 $\frac{1}{2}$	.19 $\frac{1}{2}$
Bufs, 45-60 pounds, No. 1, per pound-----	.19 $\frac{1}{2}$	.18 $\frac{3}{4}$
Heavy native steers, 60 pounds and up, No. 1, per pound--	.22 $\frac{1}{2}$	.21 $\frac{1}{2}$
Light native steers, 50-60 pounds, No. 1, per pound-----	.21 $\frac{1}{2}$	.20 $\frac{1}{2}$
Heavy native cows, 60 pounds and up, No. 1, per pound---	.21 $\frac{1}{2}$	.20 $\frac{1}{2}$
Bulls, 60 pounds and up, No. 1, per pound-----	.15 $\frac{1}{2}$	.14 $\frac{3}{4}$
Kips, 15-25 pounds, No. 1, per pound-----	.22 $\frac{1}{2}$	.21 $\frac{1}{2}$
Calf, 8-15 pounds, city first-salt, equal to Chicago No. 1, per pound-----	.40	.40
Other city first-salt skins at relative value.		
Calf, city resalted, 5 per cent less than similar first-salt skins.		
Calf, country, No. 1, per pound-----	.34	.34
Light calf, 7-8 pounds, per skin-----	2.50	2.50
Deacons, per skin-----	2.30	2.30

November
and
December, January,
1918. 1919.

3. Colorado, Wyoming, Montana:

Extremes (no selection for brands), 25-45 pounds, No. 1,
per pound ----- \$0.18½ \$0.18

Bufs (no selection for brands), 45 pounds and up, No. 1,
per pound ----- .17½ .17

Bulls (no selection for brands), 60 pounds and up, No. 1,
per pound ----- .14½ .13½

Kips, 15-25 pounds, No. 1, per pound ----- .20½ .19½

Calf, city and country mixed, No. 1, per pound ----- .35 .35

4. Kentucky, Tennessee, Maryland, North Carolina, Virginia.

District of Columbia:

Extremes, 25-45 pounds, No. 1, per pound ----- .20½ .20

Bufs, 45-60 pounds, No. 1, per pound ----- .19½ .19

Bulls, 60 pounds and up, No. 1, per pound ----- .15½ .15

Kips, city and country, No. 1, per pound ----- .22½ .22

Calf, 8-15 pounds, city first-salt equal to Chicago, No. 1,
per pound ----- .40 .40

Other city first-salt skins at relative value.

Calf, city resalted, 5 per cent less than similar first-salt
skins.

Calf, country, No. 1, per pound ----- .30 .30

Light calf, 7-8 pounds, per skin ----- 2.50 2.50

Deacons, per skin ----- 2.30 2.30

Ticky hides, kip, and skins at 2 cents per pound less than
free of ticks.

5. Florida, Alabama, Mississippi, Georgia, South Carolina, Louisiana east of Mississippi River:

Ticky hides (free of ticks at 2 cents per pound more).

Extremes, 25-45 pounds, or 30-45 pounds, No. 1, per pound ----- .18½ .18

Bufs, 45 pounds and up, No. 1, per pound ----- .17½ .17

Bulls, 60 pounds and up, No. 1, per pound ----- .14½ .14

Kips, 15-25 pounds or 15-30 pounds, No. 1, per pound ----- .19½ .19

Calf, city first-salt, No. 1, per pound ----- .37 .37

Calf, city resalted, at 5 per cent less than similar first-salt
skins.

Calf, country, No. 1, per pound ----- .30 .30

6. Texas, Oklahoma, Arkansas, Louisiana west of Mississippi River:

No selection on hides for brands or ticks.

Extremes, 25-40 or 25-45 pounds, No. 1, per pound ----- .19½ .19

Bufs, 40 or 45 pounds and up, No. 1, per pound ----- .18½ .18

Bulls, 60 pounds and up, No. 1, per pound ----- .14½ .14

Kips, 15-25 pounds, No. 1, per pound ----- .20½ .20

Calf, 15 pounds and down, No. 1, per pound ----- .30 .30

7. California, Utah, Oregon, Washington, Nevada, Idaho:

Steers, 50 pounds and up, No. 1, per pound ----- .22½ .21½

Cows, 60 pounds and up, No. 1, per pound ----- .21½ .20½

Extremes, 30-45 pounds and up, No. 1, per pound ----- .20½ .19½

Bufs, 45 pounds and up, No. 1, per pound ----- .19½ .18½

Bulls, native, 60 pounds and up, No. 1, per pound ----- .16½ .15½

Bulls, branded, 60 pounds and up, No. 1, per pound ----- .14½ .13½

Kips, 15-30 pounds, No. 1, per pound ----- .22½ .21½

Calf, short trimmed, Oregon, Washington, Idaho cities
and counties, No. 1, per pound ----- .40 .40

Calf, partly trimmed, California, Nevada, Utah cities and
counties, No. 1, per pound ----- .36 .36

		November and December, January, 1918. 1919.	
8. Arizona, New Mexico:			
No selection on hides for brands.			
Extremes, 25-45 pounds, No. 1, per pound-----		\$0. 19 $\frac{3}{4}$	\$0. 19
Bufs, 45 pounds and up, No. 1, per pound-----		. 18 $\frac{3}{4}$	. 18
Bulls, 60 pounds and up, No. 1, per pound-----		. 14 $\frac{3}{4}$	. 14
Kips, 15-25 pounds, No. 1, per pound-----		. 20 $\frac{3}{4}$	. 20
Calf, 15 pounds down, No. 1, per pound-----		. 30	. 30
9. Dry hides, 16 pounds and up, 34 cents to January 31, 1919.			
Bulls, two-thirds price.			
Glue, half price.			
Kips, 7-16 pounds, glue out, 37 cents per pound to Jan- uary 31, 1919.			
Calf, under 7 pounds, glue out, 43 cents per pound to January 31, 1919.			
Dry-salted hides are 6 cents less than dry flints in all cases where it has been customary to sell lots running all or practically all dry salted, and in such cases the hides with pickle on them are 3 cents less per pound than dry flints. In other cases the customary condi- tions prevail.			
10. Maine, Vermont, New Hampshire, Massachusetts, New York, Connecticut, Rhode Island, Delaware, New Jersey:			
Extremes, 25-45 pounds, No. 1, per pound-----		. 20 $\frac{3}{4}$	. 20
Bufs, 45 pounds and up, No. 1, per pound-----		. 19 $\frac{3}{4}$	. 19
Heavy steers, 60 pounds and up, No. 1, per pound-----		. 22 $\frac{3}{4}$	. 21 $\frac{1}{2}$
Heavy cows, 60 pounds and up, No. 1, per pound-----		. 21 $\frac{3}{4}$	. 20 $\frac{1}{2}$
Bulls, 60 pounds and up, No. 1, per pound-----		. 15 $\frac{1}{4}$	. 14 $\frac{1}{2}$
Kips (including grassers), No. 1, per pound-----		. 23 $\frac{1}{4}$	. 22 $\frac{1}{2}$
Calf price is provided for under "Stipulation regarding trimmed skins outside of New York City."			

The above maximum prices on hides in section 10 apply to regular type as to salting, trim, etc. First-salt hides, also trimmed of dewclaws and with square shanks and with burr of ear removed have a maximum price of 1 cent per pound more than the maximum prices set.

EXHIBIT II.

Average prices of packer hides and skins by classes and grades for each month in 1918 and for each year from 1898 to 1918, inclusive, as published in "Shoe and Leather Reporter."

CHICAGO PACKER HIDES.

	Heavy native steers.	Heavy Texas steers.	Light Texas steers.	Butt- brand- ed steers.	Colo- rado steers.	Brand- ed cows.	Heavy native cows.	Light native cows.	Native bulls.	Brand- ed bulls.	Aver- age prices.
	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.
1918.											
January....	31.00	28.12	23.00	26.25	25.25	18.00	29.00	22.75	20.50	17.25	24.112
February....	29.00	25.87	22.00	23.22	24.22	17.37	26.75	20.62	19.25	16.75	22.505
March.....	26.12	23.12	21.50	22.25	21.25	15.50	22.50	16.75	18.00	15.50	20.249
April.....	27.37	26.37	23.94	24.50	23.62	17.12	23.50	18.50	18.25	16.62	21.969
May.....	31.40	30.20	28.60	29.30	28.50	22.50	28.80	24.00	21.60	19.80	26.470
June.....	33.00	31.00	30.00	31.00	30.00	25.00	30.00	26.00	23.00	21.00	28.000
July.....	33.00	31.00	30.00	31.00	30.00	25.00	30.00	26.00	23.00	21.00	28.000
August.....	30.00	28.00	27.00	28.00	27.00	23.00	28.00	24.00	21.50	19.50	25.600
September..	30.00	28.00	27.00	28.00	27.00	23.00	28.00	24.00	21.50	19.50	25.600
October.....	30.00	28.00	27.00	28.00	27.00	23.00	28.00	24.00	21.50	19.50	25.600
November..	29.00	27.00	26.00	27.00	26.00	22.00	27.00	23.00	20.50	18.50	24.600
December..	29.00	27.00	26.00	27.00	26.00	22.00	27.00	23.00	20.50	18.50	24.600
Average:											
1918....	29.91	27.81	26.00	27.13	26.32	21.12	27.37	22.72	20.76	18.62	24.775
1917....	32.70	30.94	29.58	30.23	29.73	27.35	31.59	29.59	25.03	21.72	28.846
1916....	26.28	24.23	24.06	23.86	23.34	23.94	24.89	24.89	21.41	18.47	23.537
1915....	24.26	21.48	21.12	21.37	20.39	20.90	23.55	22.97	19.24	16.39	21.167
1914....	19.76	19.23	18.77	18.56	18.20	18.49	18.94	19.27	16.20	15.15	18.257
1913....	18.38	18.06	17.72	17.42	17.26	17.19	17.28	17.27	14.82	13.80	16.920
1912....	17.69	16.58	16.14	16.17	15.88	15.71	16.40	16.30	14.07	12.03	15.697
1911....	14.81	14.32	13.54	13.50	13.47	12.56	13.87	13.50	12.11	10.50	13.218
1910....	15.29	14.88	13.77	13.71	13.42	12.40	13.79	13.04	11.96	11.10	11.931
1909....	16.47	16.41	15.35	15.49	15.29	14.11	15.21	14.83	13.10	12.04	14.830
1908....	13.36	13.86	12.46	12.28	12.21	10.43	11.43	11.04	10.03	8.73	11.583
1907....	14.55	13.96	13.26	12.99	12.70	11.98	13.10	11.71	12.13	10.08	12.744
1906....	15.43	14.89	14.84	13.99	13.65	14.27	14.96	14.84	12.21	10.56	13.964
1905....	14.30	14.44	13.91	13.21	13.08	12.74	13.16	13.10	10.77	9.76	12.847
1904....	11.66	12.65	11.67	10.89	10.81	10.28	10.60	10.52	9.10	8.15	10.633
1903....	11.69	12.64	11.19	10.57	10.54	9.19	10.07	9.64	9.61	7.69	10.283
1902....	13.38	14.41	12.42	12.33	12.10	10.01	11.12	10.12	10.50	9.10	11.549
1901....	12.37	12.88	11.53	11.46	11.21	9.87	10.66	10.07	10.19	8.54	10.878
1900....	11.94	11.99	11.09	11.04	10.49	10.18	10.62	10.44	9.93	8.42	10.614
1899....	12.34	12.07	11.55	11.44	10.70	10.90	11.27	10.40	10.04	8.50	11.021
1898....	11.50	10.74	10.43	10.08	9.24	9.72	10.84	11.02	9.56	7.32	10.045

EXHIBIT III.

Average prices of country hides and skins by classes and grades for each month in 1918 and for each year from 1898 to 1918, inclusive, as published in "Shoe and Leather Reporter."

CHICAGO COUNTRY HIDES.

	Heavy steers.	Heavy cows.	No. 1 buffs.	No. 2 buffs.	Ex- tremes.	Country packer brands.	Branded cows.	Bulls.	City calf.	City kips.	Aver- age prices.
	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.	Cents per pound.
1918.											
January....	23.00	18.50	18.50	17.50	18.75	20.00	15.25	15.75	36.00	28.75	21.200
February....	22.50	17.12	16.87	15.87	17.50	17.50	14.00	15.37	35.25	25.25	19.723
March.....	18.75	14.50	14.25	13.25	14.75	15.37	12.25	13.50	33.75	22.12	17.249
April.....	20.37	15.00	15.00	13.50	16.12	16.75	13.00	13.37	38.00	23.75	18.486
May.....	21.40	18.40	18.62	17.12	20.00	19.80	14.90	15.00	44.00	28.40	21.764
June.....	20.75	18.62	18.75	17.25	21.00	21.00	15.25	15.00	44.00	27.50	21.912
July.....	20.87	18.94	19.00	17.00	21.00	21.00	15.50	15.00	44.00	27.50	21.981
August.....	22.60	20.00	20.50	19.25	22.00	21.00	15.50	15.00	44.00	27.50	22.735
September..	23.00	21.00	21.75	20.50	22.00	21.00	15.50	15.00	44.00	27.50	23.125
October.....	23.25	21.50	21.00	20.00	22.00	21.00	16.62	16.50	44.00	27.00	23.287
November..	23.75	22.50	21.00	20.00	22.00	20.00	17.00	16.50	44.00	27.00	23.375
December..	22.50	21.50	19.50	18.50	20.50	19.00	15.50	15.50	40.00	26.00	21.850
Average:											
1918.....	21.89	18.96	18.73	17.48	19.80	19.62	15.02	15.12	40.92	26.52	21.390
1917.....	25.74	23.46	23.60	21.91	25.23	24.31	20.30	20.39	39.43	29.05	23.342
1916.....	20.75	20.17	20.37	19.35	22.68	21.86	17.84	17.28	34.55	24.84	21.969
1915.....	19.67	19.06	18.98	17.92	19.65	18.62	16.13	15.90	21.60	19.60	18.713
1914.....	16.56	16.42	16.63	15.64	17.70	16.34	14.53	13.98	21.90	19.26	16.896
1913.....	15.39	15.00	15.05	14.31	15.60	14.43	13.54	12.73	17.18	16.74	14.997
1912.....	14.25	14.06	14.05	13.02	14.91	13.12	12.33	11.22	18.60	16.01	14.157
1911.....	12.24	11.82	11.82	10.79	12.80	10.72	10.02	10.01	16.34	13.23	11.979
1910.....	12.16	11.26	11.13	10.02	11.51	10.20	9.49	9.86	16.02	12.03	11.373
1909.....	14.17	13.40	13.24	12.21	13.55	12.55	11.44	11.13	17.92	14.11	13.372
1908.....	10.61	9.35	9.29	8.21	9.75	8.90	8.04	7.86	14.17	10.09	9.627
1907.....	12.05	11.02	10.79	9.64	10.99	10.69	9.66	10.02	14.90	11.60	11.135
1906.....	13.83	13.49	13.43	12.47	13.43	12.48	12.51	11.28	15.54	14.05	13.252
1905.....	12.47	11.92	11.88	10.96	12.14	11.86	10.93	9.39	14.84	12.58	11.897
1904.....	10.03	9.47	9.45	8.49	9.75	9.42	8.43	7.87	13.37	11.08	9.734
1903.....	9.71	8.66	8.59	7.63	8.87	8.82	7.85	7.75	12.05	10.16	9.009
1902.....	10.99	9.41	8.74	7.78	8.83	9.45	8.55	8.73	11.89	9.67	9.404
1901.....	10.50	9.25	8.73	7.73	8.77	8.84	8.56	8.43	11.93	9.36	9.210
1900.....	10.29	9.30	9.11	8.26	9.52	8.75	8.73	8.05	11.91	10.16	9.409
1899.....	10.79	10.13	10.08	9.58	10.43	9.69	9.56	8.71	12.84	10.95	10.276
1898.....	10.25	9.90	9.94	9.43	10.49	8.85	8.85	8.46	12.49	11.20	9.986

EXHIBIT IV.

Range and spread of market prices for comparable grades of country and packer hides, 1909-1918.

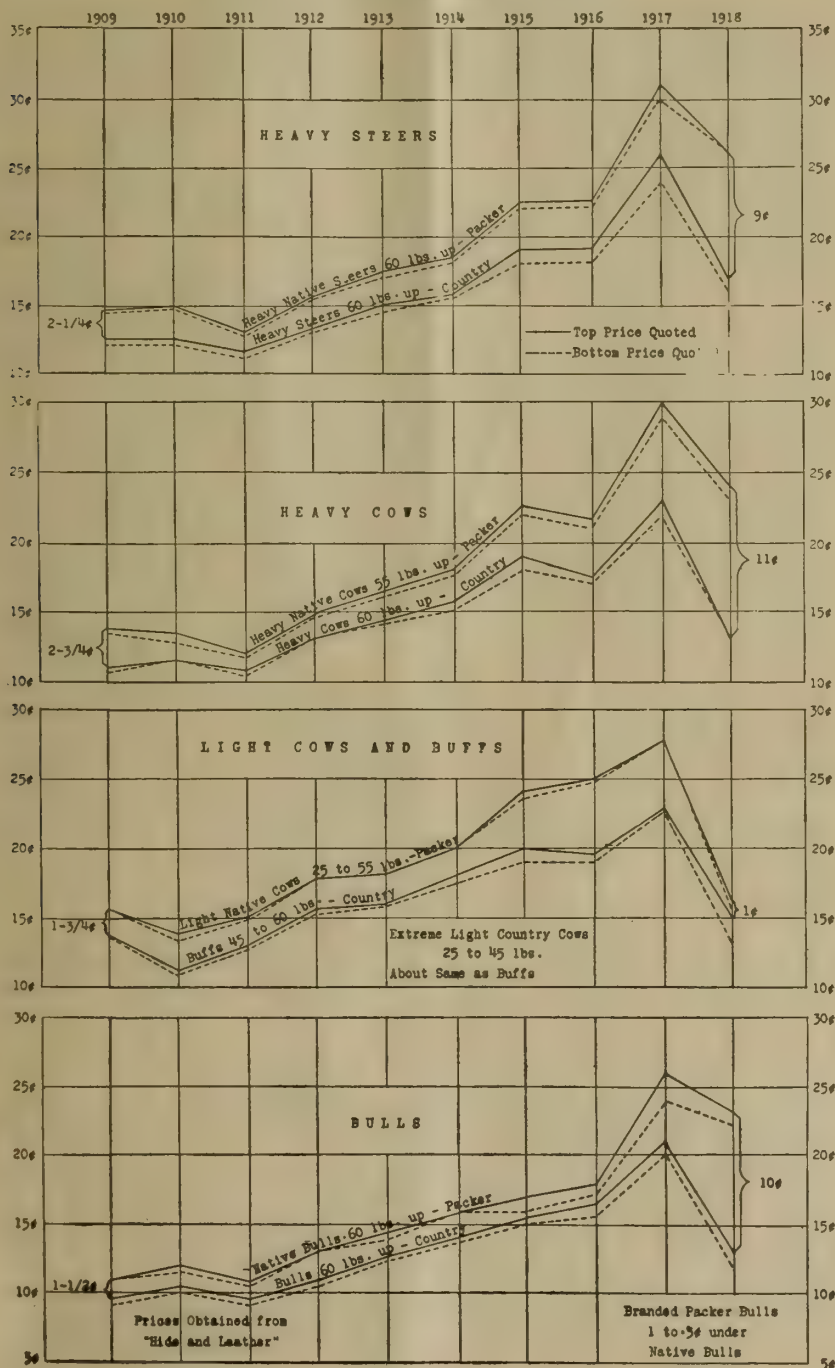


EXHIBIT V.

Range and spread of market prices for comparable grades of country and packer hides, January, 1917, to June 29, 1918.

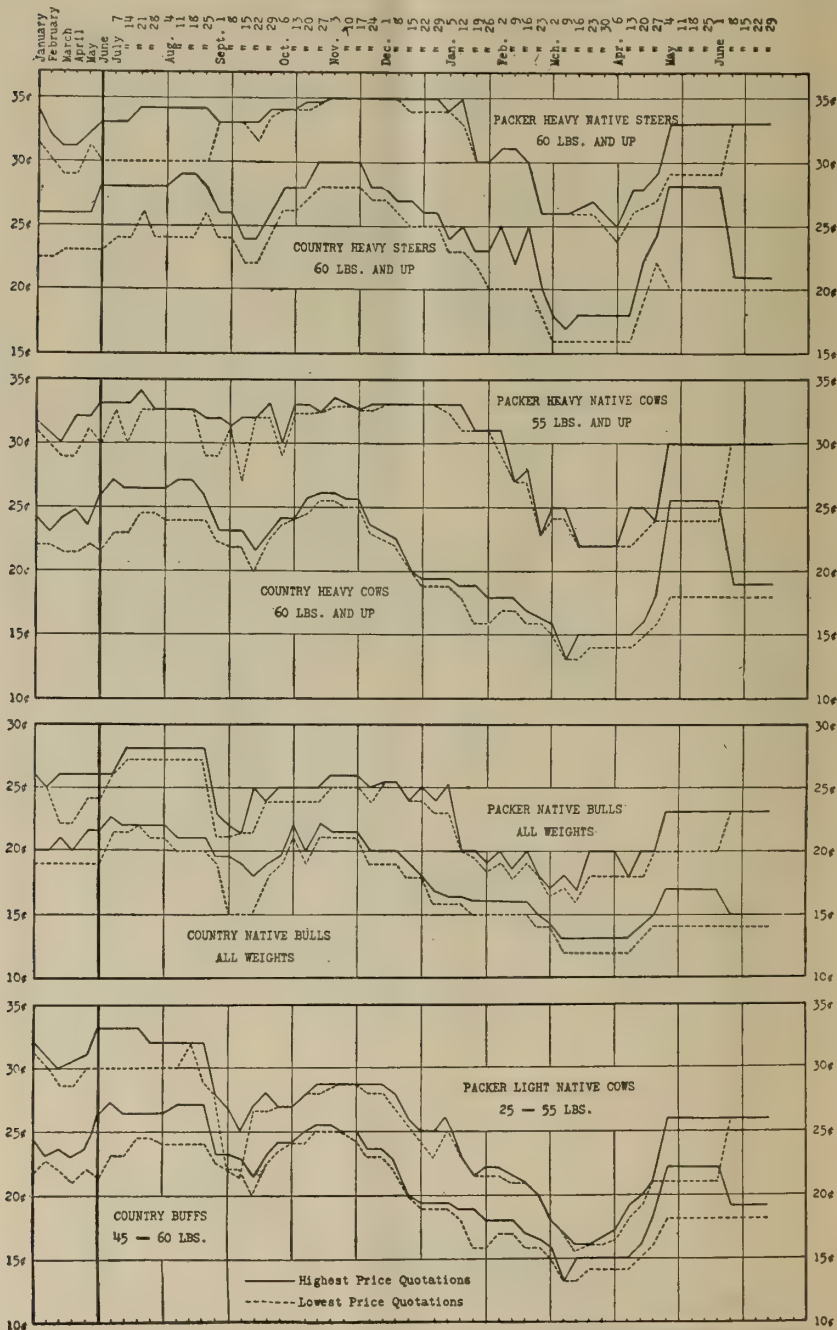


EXHIBIT VI.

The classes and grades of packer hides and skins are given herewith in tabular form.

Classes and grades of packer hides and skins.

Class.	Weight selections.	Grade.
Native steers:		
Spready native steers.....	60 pounds and up.....	No. 1 and No. 2.
Heavy native steers.....	do.....	Do.
Light native steers.....	49 to 60 pounds.....	Do.
Extreme light native steers.....	25 to 50 pounds.....	Do.
Texas steers:		
Heavy Texas steers.....	60 pounds and up.....	Do.
Light Texas steers.....	50 to 60 pounds.....	Do.
Extreme light Texas steers.....	25 to 50 pounds.....	Do.
Butt branded steers:		
Heavy B. B. steers.....	60 pounds and up.....	Do.
Light B. B. steers.....	50 to 60 pounds.....	Do.
Extreme light B. B. steers.....	25 to 50 pounds.....	Do.
Colorado steers:		
Heavy Colorado steers.....	60 pounds and up.....	Do.
Light Colorado steers.....	50 to 60 pounds.....	Do.
Extreme light Colorado steers.....	25 to 50 pounds.....	(1).
Native cows:		
Heavy native cows.....	55 pounds and up.....	No. 1 and No. 2.
Light native cows.....	25 to 50 pounds.....	Do.
Branded cows.....	All weights.....	Do.
Native bulls.....	do.....	Do.
Branded bulls.....	do.....	Do.
Kipskins.....	15 to 25 pounds.....	Do.
Branded kip.....	do.....	Do.
Heavy calf.....	8 to 15 pounds.....	Do.
Light calf.....	7 to 8 pounds.....	Do.
Deacon skins.....	Up to 7 pounds.....	
Slunk skins.....		

¹ Same as branded cows or extreme light Texas steers.

EXHIBIT VII.

The classes and grades of country hides and skins commonly used in the Chicago market are given herewith in tabular form.

Classes and grades of country hides and skins.

Class.	Weight.	Grade.
Heavy native steers.....	60 pounds and up.....	No. 1 and No. 2.
Light native steers.....	50 to 60 pounds.....	Do.
Heavy native cows.....	60 pounds and up.....	Do.
Bufs (steers, cows, bulls).....	45 to 60 pounds.....	Do.
Extremes (steers, cows, bulls).....	25 to 45 pounds.....	Do.
Bulls (heavy native).....	60 pounds and up.....	Do.
Branded bulls (heavy).....	do.....	Do.
Branded hides (steers, cows, bulls).....	25 pounds and up.....	Do.
Kipskins	15 to 25 pounds.....	Do.
	15 to 30 pounds.....	
Heavy calfskins.....	8 to 15 pounds.....	Do.
Light calfskins.....	7 to 8 pounds.....	Do.
Deacon skins.....	Up to 7 pounds.....	Do.
Slunk skins.....		

Gaylord Bros.
Makers
Syracuse, N. Y.
PAT. JAN. 21, 1908



3 2044 107 334 906

